Missouri Weekly Influenza Surveillance Report
2017-2018 Influenza Season[1]

Week 40: October 1 – 7, 2017

All data are preliminary and may change as more reports are received.

Summary:

- The 2017-2018 influenza season began with Week 40 (week ending October 7, 2017) and ends Week 39 (week ending September 29, 2018). This is the first Weekly Influenza Surveillance Report of the 2017-2018 influenza season.

- The estimated influenza activity in Missouri is Sporadic[2].

- During Week 40, a total of 47 laboratory-positive[3] influenza cases (42 influenza A and 5 influenza B) were reported in Missouri. County specific influenza data is available through interactive maps accessible on the Interactive Maps section located on page 2 of this report. No laboratory-confirmed cases of influenza were reported by the Missouri State Public Health Laboratory (MSPHL) during Week 40.

- Influenza-like illness (ILI) activity was below baseline for the Missouri Outpatient ILI Surveillance Network (ILINet). The reported percentage of outpatient visits for ILI was 1.08% (Figure 5).[4] The percentage of respiratory specimens testing positive for influenza in Missouri laboratories reporting to the National Respiratory and Enteric Virus Surveillance System (NREVSS) was low during Week 40 (Figure 6). The ILI data from ESSENCE is currently not available due to system upgrades. The data and subsequent analysis will be included in future reports as available.

- No influenza-associated deaths have been reported in Missouri as of Week 40.[5]

- No influenza or ILI-associated outbreaks or school closures have been reported in Missouri as of Week 40.

- Influenza activity remained low in the U.S. during Week 40. National influenza surveillance information is prepared by CDC and is included in the weekly FluView report, which is available online at http://www.cdc.gov/flu/weekly/fluactivitysurv.htm.

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[1]The 2017-2018 influenza season begins CDC Week 40 (week ending October 7, 2017) and ends CDC Week 39 (week ending September 29, 2018).

[2]Sporadic is defined as: Small numbers of laboratory-confirmed influenza cases or a single laboratory-confirmed influenza outbreak has been reported, but there is no increase in cases of influenza-like illness.

[3]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

[4]Influenza-like illness (ILI) is defined by ILINet as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza. Influenza-like illness (ILI) is defined by ESSENCE as Emergency Department chief complaints that contain keywords such as “flu”, “flulike”, “influenza” or “fever” plus “cough” or “fever” plus “sore throat”.

[5]All influenza-associated deaths became reportable in Missouri in 2016.

Surveillance Data:

Interactive Maps

The jurisdiction-specific influenza data are provided though interactive maps available at http://arcg.is/1zWLfW. *Click on the jurisdiction to view the influenza data specific to that jurisdiction.*

- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, CDC Week 40**
- **Reported Week-specific Rate per 100,000 Population, CDC Week 40**
- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, Season-to-Date**
- **Reported Rate per 100,000 Population, Season-to-Date**

Data Figures

Figure 1. Number of Laboratory-positive† Influenza Cases by Influenza Type, Missouri, CDC Week 40 (October 1 – 7, 2017)*

Influenza Type	Week 40	2017-2018* Season-to-Date
Influenza A	42	42
Influenza B	5	5
Influenza Unknown Or Untyped	0	0
Total	47	47

†Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 2. Number of Laboratory-positive† Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 40 (October 1 – 7, 2017)*‡

Age Group	Week 40 Cases	Week 40 Rate‡	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate‡
00-04	4	1	4	1
05-24	10	1	10	1
25-49	7	0	7	0
50-64	5	0	5	0
65+	21	2	21	2
Total	47	1	47	1

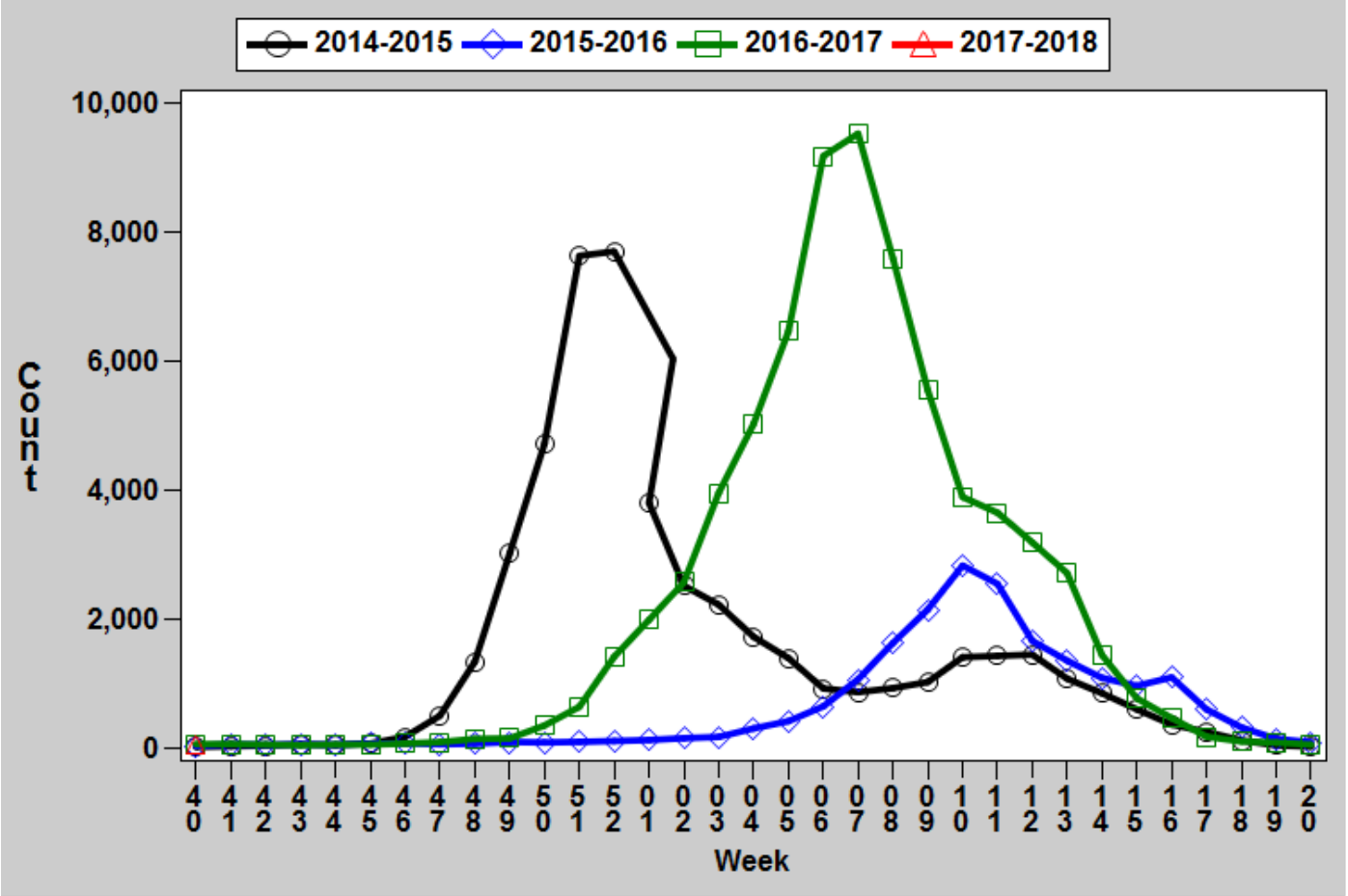
†Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
‡Incidence Rate per 100,000 population

Figure 3. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Region, Missouri, CDC Week 40 (October 1 – 7, 2017)[*‡]

District	Week 40 Cases	Week 40 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
Central	1	0	1	0
Eastern	27	1	27	1
Northwest	2	0	2	0
Southeast	16	3	16	3
Southwest	1	0	1	0
Total	47	1	47	1

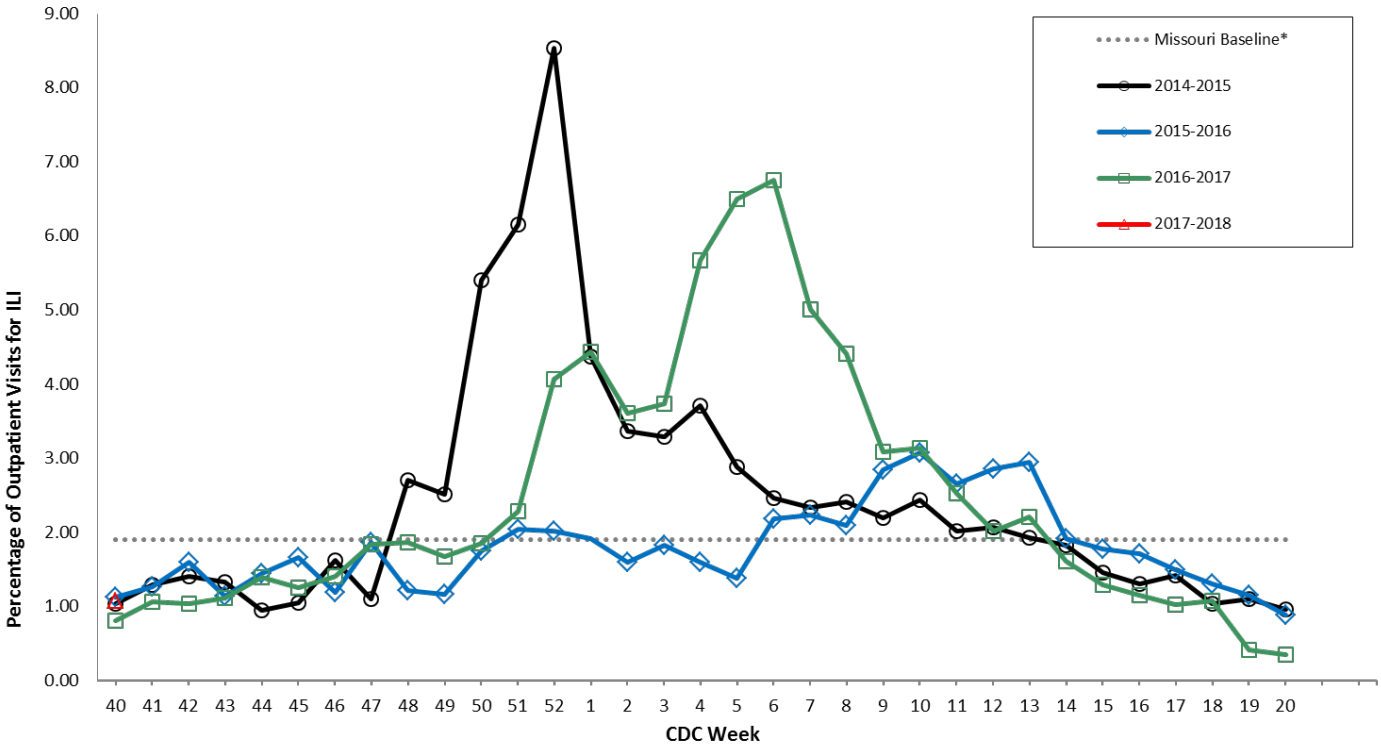
[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 4. Number of Laboratory-positive[†] Influenza Cases by CDC Week, Missouri, 2014-2018[*]



[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. Week 53, 2014-2015 flu season has 3,082 reported confirmed cases. Data Source: Missouri Health Information Surveillance System (WebSurv).

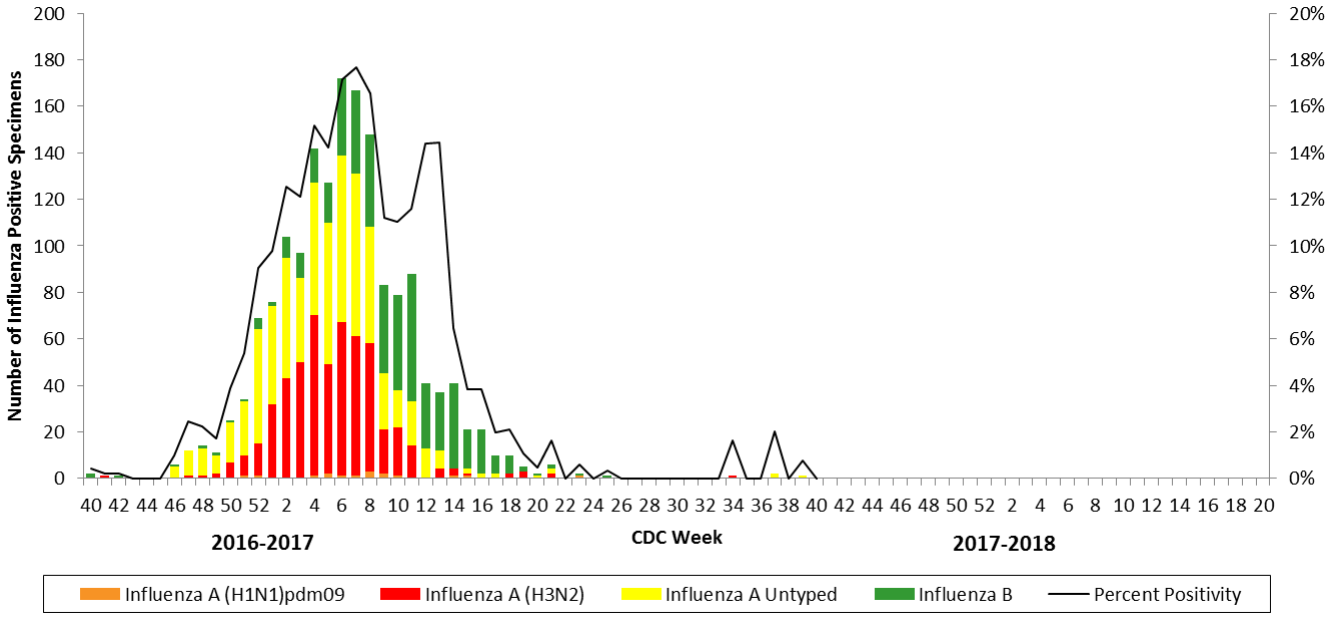
Figure 5. Percentage of Outpatient Visits for Influenza-like Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2014-2018*†



*The ILINet Region 7 (MO, IA, KS, NE) baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons, plus two standard deviations. A non-influenza week is defined as periods of two or more consecutive weeks in which each week accounted for less than 2% of the season's total number of specimens that tested positive for influenza.
Data Source: U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Centers for Disease Control and Prevention (CDC).

†2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of outpatient visits for ILI during Week 53 was 7.63.

Figure 6. Season-to-Date PCR (+) Tests for Influenza in Missouri



Data Source: National Respiratory and Enteric Virus Surveillance System (NREVSS), Centers for Disease Control and Prevention (CDC).
2016-2017 season-to-date through the week ending May 19, 2018 (Week 20).

Additional Influenza Data Sources:

Centers for Disease Control and Prevention: National Influenza Surveillance (FluView): http://www.cdc.gov/flu/weekly/fluactivitysurv.htm

The National Respiratory and Enteric Virus Surveillance System (NREVSS): https://www.cdc.gov/surveillance/nrevss/

World Health Organization: International Influenza Surveillance: http://www.who.int/influenza/surveillance_monitoring/en/

Missouri Weekly Influenza Surveillance Report
2017-2018 Influenza Season[1]

Week 41: October 8 – 14, 2017

All data are preliminary and may change as more reports are received.

Summary:

- The estimated influenza activity in Missouri is Sporadic[2].

- During Week 41, a total of 69 laboratory-positive[3] influenza cases (46 influenza A and 23 influenza B) were reported. A season-to-date total of 151 laboratory-positive influenza cases (112 influenza A, 38 influenza B, and one untyped) have been reported in Missouri as of Week 41. The influenza type for reported season-to-date cases includes 74% influenza A, 25% influenza B, and 1% untyped. No laboratory-positive cases of influenza were reported by the Missouri State Public Health Laboratory (MSPHL) during Week 41.

- Influenza-like illness (ILI) activity was below baseline for the Missouri Outpatient ILI Surveillance Network (ILINet). The reported percentage of outpatient visits for ILI was 0.68% (Figure 5).[4] The percentage of respiratory specimens testing positive for influenza in Missouri laboratories reporting to the National Respiratory and Enteric Virus Surveillance System (NREVSS) was low during Week 41 (Figure 6). The ILI data from ESSENCE is currently not available due to system upgrades. The data and subsequent analysis will be included in future reports as available.

- One influenza-associated death has been reported in Missouri as of Week 41.[5] During Week 40, 32 deaths involving Pneumonia and Influenza (P&I) were reported to the Bureau of Vital Records, resulting in a season-to-date total of 32 P&I-associated deaths in Missouri.[6]

- No influenza or ILI-associated outbreaks or school closures have been reported in Missouri as of Week 41.

- Influenza activity was low in the U.S. during Week 40. National influenza surveillance information is prepared by CDC and is included in the weekly FluView report, which is available online at http://www.cdc.gov/flu/weekly/fluactivitysurv.htm.

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[1]The 2017-2018 influenza season begins CDC Week 40 (week ending October 7, 2017) and ends CDC Week 39 (week ending September 29, 2018).

[2]Sporadic is defined as: Small numbers of laboratory-confirmed influenza cases or a single laboratory-confirmed influenza outbreak has been reported, but there is no increase in cases of influenza-like illness.

[3]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

[4]Influenza-like illness (ILI) is defined by ILINet as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza. Influenza-like illness (ILI) is defined by ESSENCE as Emergency Department chief complaints that contain keywords such as “flu”, “flulike”, “influenza” or “fever” plus “cough” or “fever” plus “sore throat”.

[5]All influenza-associated deaths became reportable in Missouri in 2016.

[6]The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

Surveillance Data:

Interactive Maps

The jurisdiction-specific influenza data are provided though interactive maps available at http://arcg.is/C5zy1. *Click on the jurisdiction to view the influenza data specific to that jurisdiction.*

- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, CDC Week 40**
- **Reported Week-specific Rate per 100,000 Population, CDC Week 40**
- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, Season-to-Date**
- **Reported Rate per 100,000 Population, Season-to-Date**

Data Figures

Figure 1. Number of Laboratory-positive† Influenza Cases by Influenza Type, Missouri, CDC Week 41 (October 8 – 14, 2017)*

Influenza Type	Week 40	Week 41	2017-2018* Season-to-Date
Influenza A	66	46	112
Influenza B	15	23	38
Influenza Unknown Or Untyped	1	0	1
Total	82	69	151

†Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza season begins week ending October 7, 2017 (CDC Week 40). Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 2. Number of Laboratory-positive† Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 41 (October 8 – 14, 2017)*‡

Age Group	Week 41 Cases	Week 41 Rate‡	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate‡
00-04	14	3.74	26	6.95
05-24	17	1.06	38	2.37
25-49	21	1.10	39	2.04
50-64	7	0.57	15	1.21
65+	10	1.05	33	3.46
Total	69	1.13	151	2.48

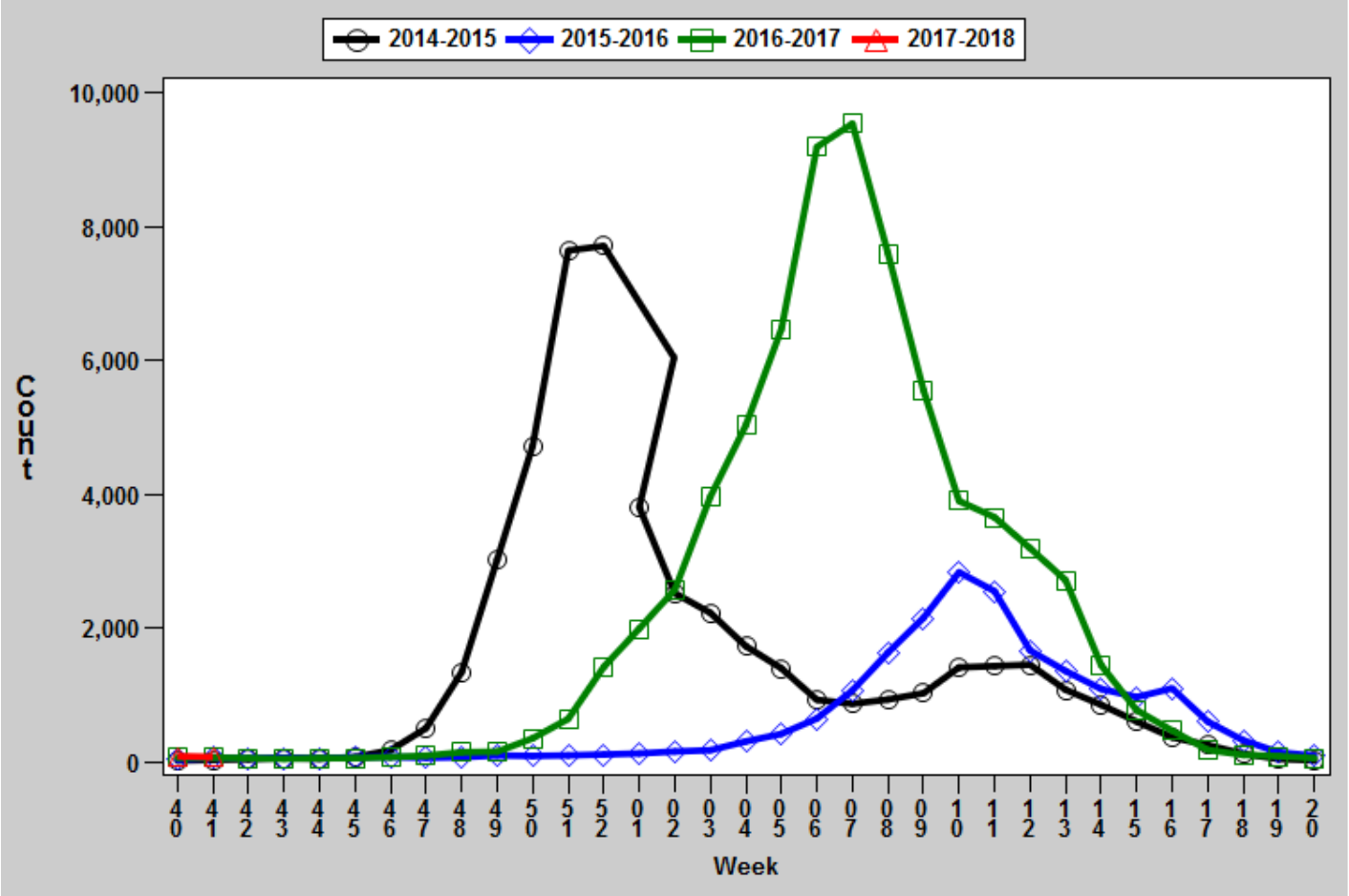
†Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza season begins week ending October 7, 2017 (CDC Week 40). Data Source: Missouri Health Information Surveillance System (WebSurv)
‡Incidence Rate per 100,000 population

Figure 3. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Region, Missouri, CDC Week 41 (October 8 – 14, 2017)[*‡]

District	Week 41 Cases	Week 41 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
Central	4	0.59	11	1.62
Eastern	32	1.41	71	3.13
Northwest	15	0.94	24	1.50
Southeast	13	2.76	34	7.21
Southwest	5	0.47	11	1.03
Total	69	1.13	151	2.48

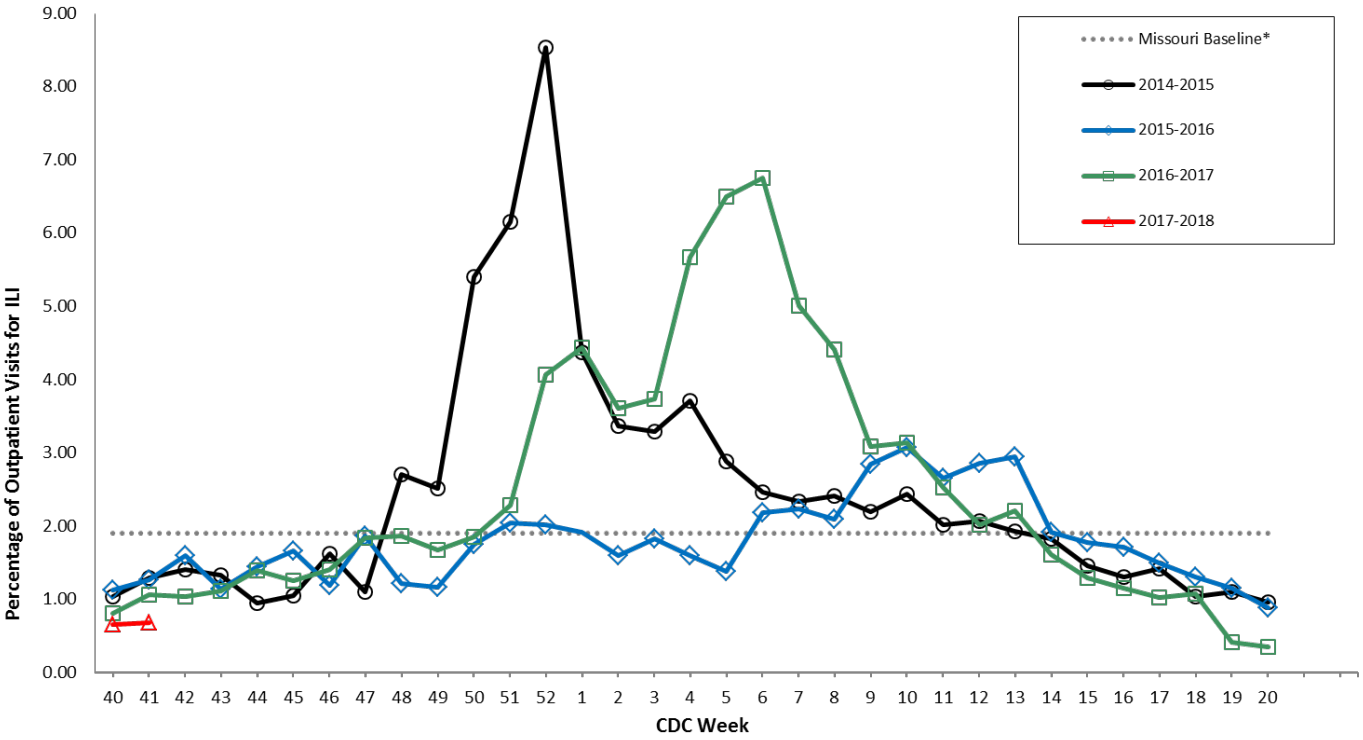
[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza season begins week ending October 7, 2017 (CDC Week 40). Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 4. Number of Laboratory-positive[†] Influenza Cases by CDC Week, Missouri, 2014-2018[*]



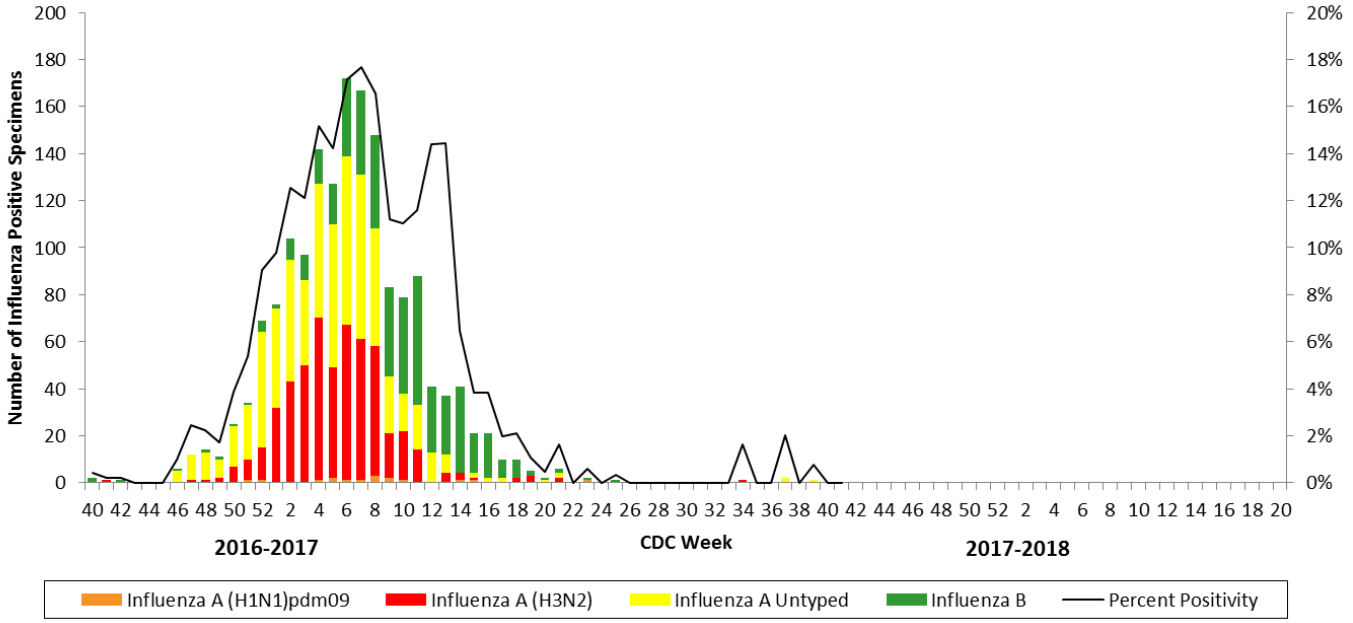
[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. During Week 53 of the 2014-2015 influenza season, 3,082 laboratory-positive cases were reported. Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 5. Percentage of Outpatient Visits for Influenza-like Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2014-2018*†



*The ILINet Region 7 (MO, IA, KS, NE) baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons, plus two standard deviations. A non-influenza week is defined as periods of two or more consecutive weeks in which each week accounted for less than 2% of the season's total number of specimens that tested positive for influenza.
Data Source: U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Centers for Disease Control and Prevention (CDC).
†2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of outpatient visits for ILI during Week 53 was 7.63.

Figure 6. Season-to-Date PCR (+) Tests for Influenza in Missouri



Data Source: National Respiratory and Enteric Virus Surveillance System (NREVSS), Centers for Disease Control and Prevention (CDC).
2016-2017 season-to-date through the week ending May 19, 2018 (Week 20).

Additional Influenza Data Sources:

Centers for Disease Control and Prevention: National Influenza Surveillance (FluView):
http://www.cdc.gov/flu/weekly/fluactivitysurv.htm

The National Respiratory and Enteric Virus Surveillance System (NREVSS):
https://www.cdc.gov/surveillance/nrevss/

World Health Organization: International Influenza Surveillance:
http://www.who.int/influenza/surveillance_monitoring/en/

Missouri Weekly Influenza Surveillance Report
2017-2018 Influenza Season[1]

Week 42: October 15 – 21, 2017

All data are preliminary and may change as more reports are received.

Summary:

- The estimated influenza activity in Missouri is Sporadic[2].
- During Week 42, a total of 59 laboratory-positive[3] influenza cases (49 influenza A and 10 influenza B) were reported. A season-to-date total of 224 laboratory-positive influenza cases (165 influenza A, 58 influenza B, and one untyped) have been reported in Missouri as of Week 42. The influenza type for reported season-to date cases includes 73% influenza A, 26% influenza B, and 1% untyped. No laboratory-positive cases of influenza were reported by the Missouri State Public Health Laboratory (MSPHL) during Week 42.
- Influenza-like illness (ILI) activity was below baseline for the Missouri Outpatient ILI Surveillance Network (ILINet). The reported percentage of outpatient visits for ILI was 0.30% (Figure 5).[4] The percentage of respiratory specimens testing positive for influenza in Missouri laboratories reporting to the National Respiratory and Enteric Virus Surveillance System (NREVSS) remained low during Week 42 (Figure 6). The ILI data from ESSENCE is currently not available due to system upgrades. The data and subsequent analysis will be included in future reports as available.
- One influenza-associated death has been reported in Missouri as of Week 42.[5] During Week 41, 30 deaths involving Pneumonia and Influenza (P&I) were reported to the Bureau of Vital Records, resulting in a season-to-date total of 62 P&I associated deaths in Missouri.[6]
- No influenza or ILI-associated outbreaks or school closures have been reported in Missouri as of Week 42.
- Influenza activity remained low in the U.S. during Week 41. National influenza surveillance information is prepared by CDC and is included in the weekly FluView report, which is available online at http://www.cdc.gov/flu/weekly/fluactivitysurv.htm.

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[1]The 2017-2018 influenza season begins CDC Week 40 (week ending October 7, 2017) and ends CDC Week 39 (week ending September 29, 2018).

[2]Sporadic is defined as: Small numbers of laboratory-confirmed influenza cases or a single laboratory-confirmed influenza outbreak has been reported, but there is no increase in cases of influenza-like illness.

[3]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

[4]Influenza-like illness (ILI) is defined by ILINet as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza. Influenza-like illness (ILI) is defined by ESSENCE as Emergency Department chief complaints that contain keywords such as "flu", "flulike", "influenza" or "fever" plus "cough" or "fever" plus "sore throat".

[5]All influenza-associated deaths became reportable in Missouri in 2016.

[6]The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

Surveillance Data:

Interactive Maps

The jurisdiction-specific influenza data are provided though interactive maps available at http://arcg.is/19bPn9. *Click on the jurisdiction to view the influenza data specific to that jurisdiction.*

- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, CDC Week 42**
- **Reported Week-specific Rate per 100,000 Population, CDC Week 42**
- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, Season-to-Date**
- **Reported Rate per 100,000 Population, Season-to-Date**

Data Figures

Figure 1. Number of Laboratory-positive† Influenza Cases by Influenza Type, Missouri, CDC Week 42 (October 15 – 21, 2017)*

Influenza Type	Week 40	Week 41	Week 42	2017-2018* Season-to-Date
Influenza A	66	50	49	165
Influenza B	15	33	10	58
Influenza Unknown Or Untyped	1	0	0	1
Total	82	83	59	224

†Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 2. Number of Laboratory-positive† Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 42 (October 15 – 21, 2017)*‡

Age Group	Week 42 Cases	Week 42 Rate‡	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate‡
00-04	16	4.27	43	11.49
05-24	15	0.93	56	3.49
25-49	15	0.78	60	3.14
50-64	4	0.32	21	1.70
65+	9	0.94	44	4.61
Total	59	0.97	224	3.68

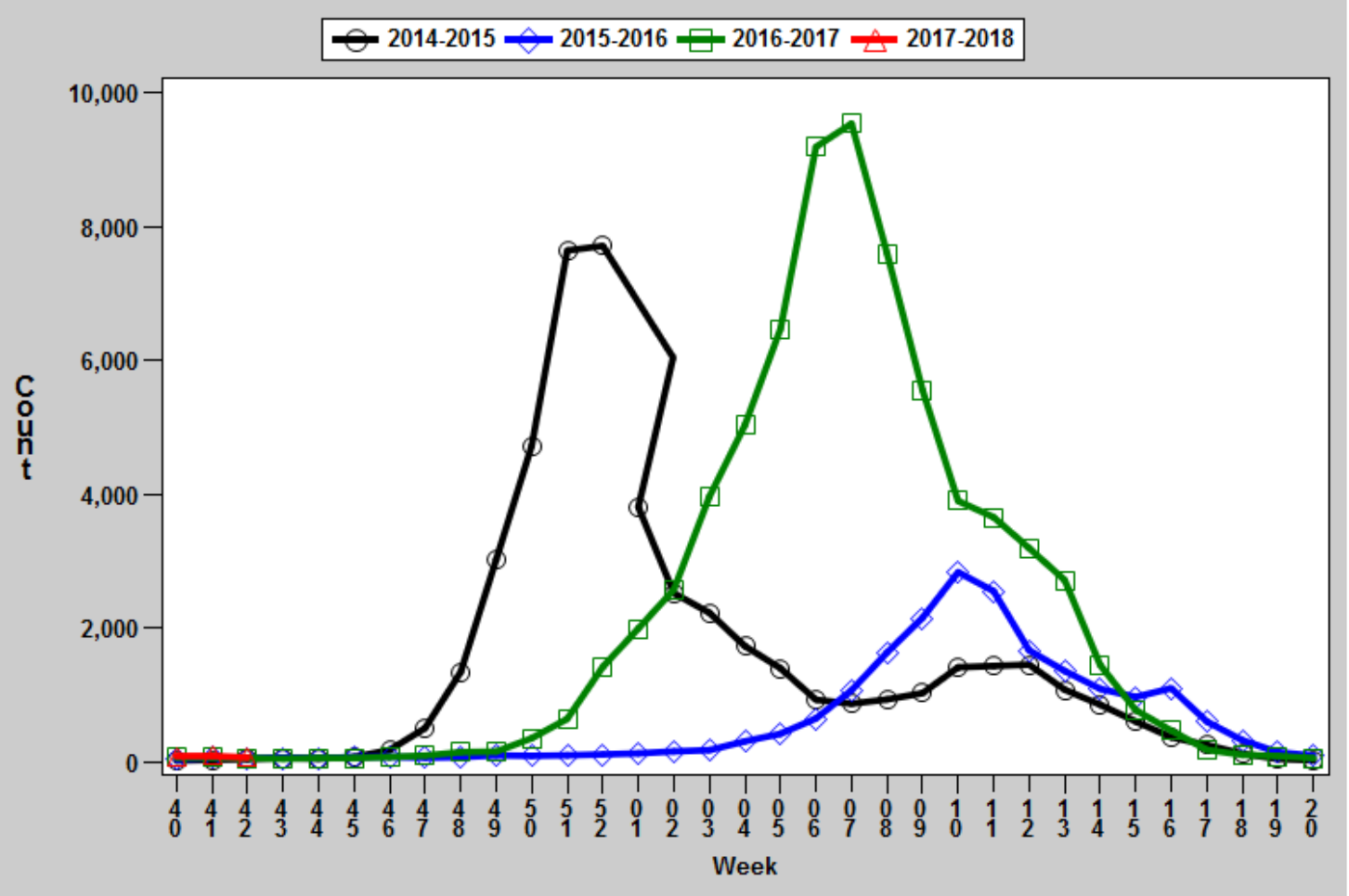
†Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
‡Incidence Rate per 100,000 population

Figure 3. Number of Laboratory-positive† Influenza Cases and Case Rates by Region, Missouri, CDC Week 42 (October 15 – 21, 2017)*‡

District	Week 42 Cases	Week 42 Rate‡	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate‡
Central	3	0.44	18	2.66
Eastern	8	0.35	79	3.49
Northwest	8	0.50	40	2.50
Southeast	30	6.36	64	13.57
Southwest	10	0.93	23	2.15
Total	59	0.97	224	3.68

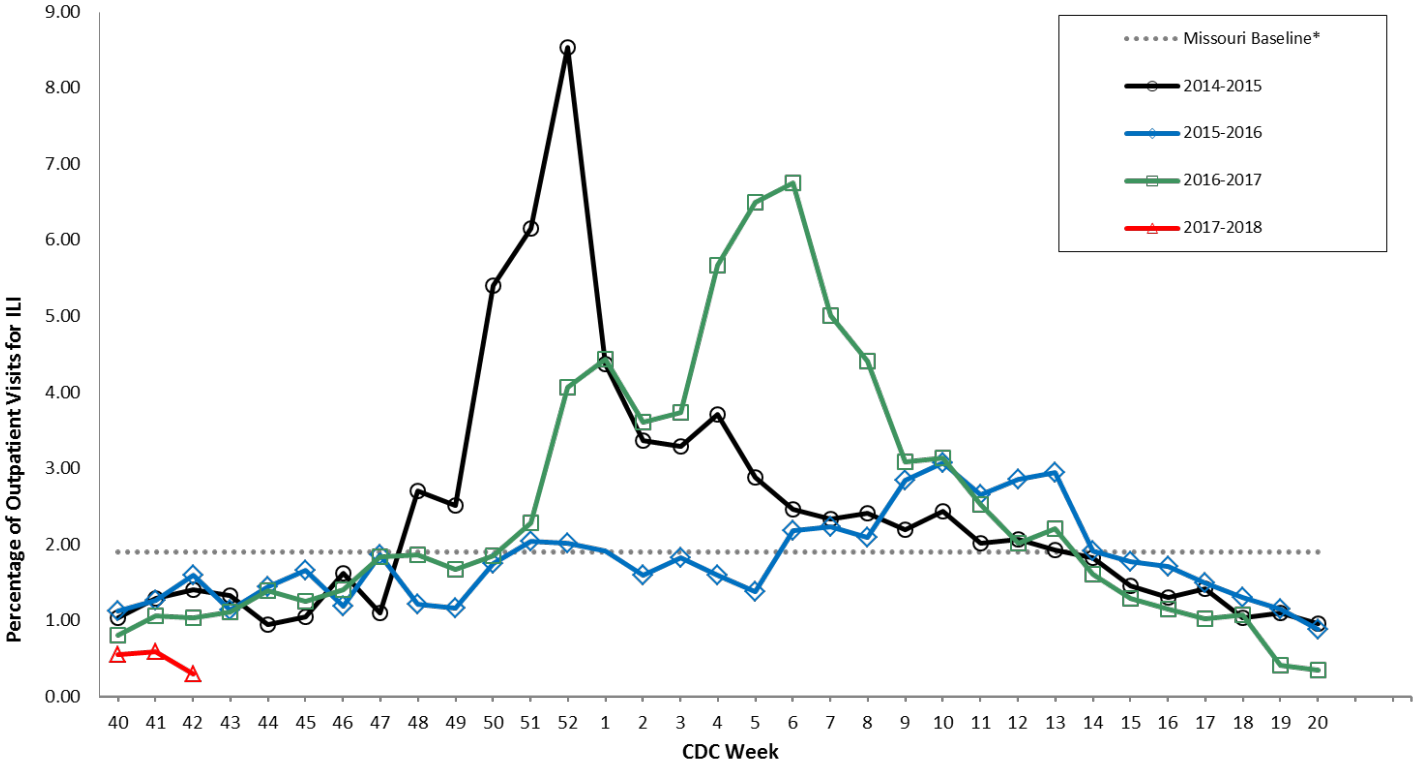
†Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
‡Incidence Rate per 100,000 population

Figure 4. Number of Laboratory-positive† Influenza Cases by CDC Week, Missouri, 2014-2018*



†Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. Week 53, 2014-2015 flu season has 3,082 reported confirmed cases. Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 5. Percentage of Outpatient Visits for Influenza-like Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2014-2018*†

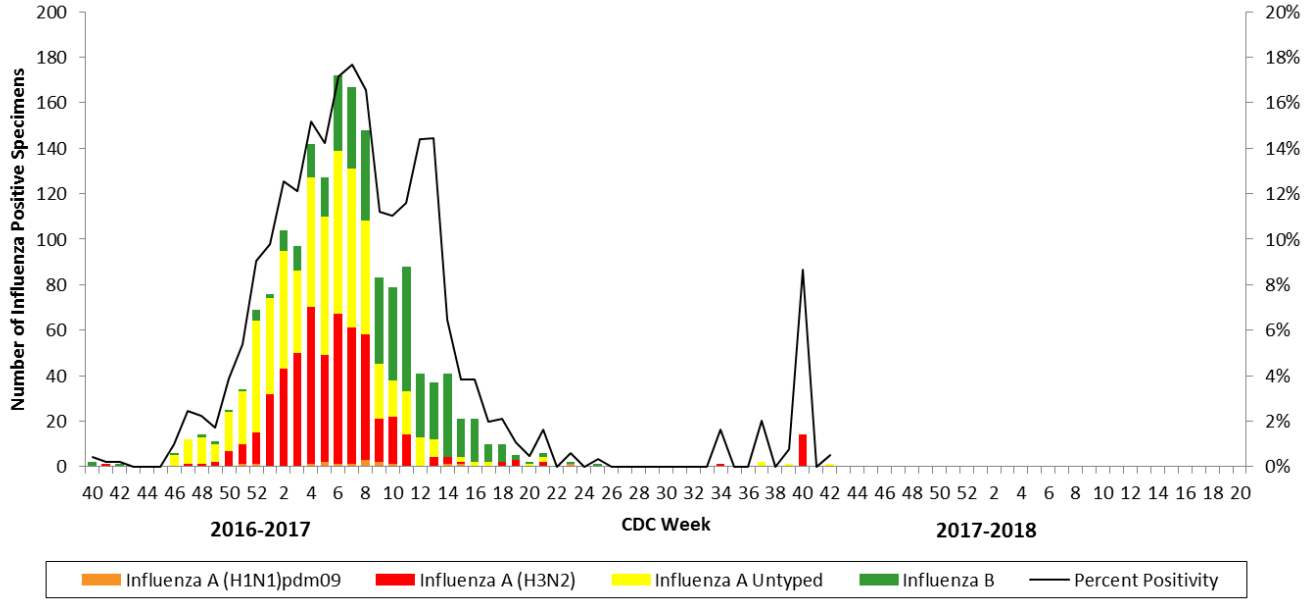


*The ILINet Region 7 (MO, IA, KS, NE) baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons, plus two standard deviations. A non-influenza week is defined as periods of two or more consecutive weeks in which each week accounted for less than 2% of the season's total number of specimens that tested positive for influenza.

Data Source: U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Centers for Disease Control and Prevention (CDC).

†2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of outpatient visits for ILI during Week 53 was 7.63.

Figure 6. Season-to-Date PCR (+) Tests for Influenza in Missouri



Data Source: National Respiratory and Enteric Virus Surveillance System (NREVSS), Centers for Disease Control and Prevention (CDC). 2016-2017 season-to-date through the week ending May 19, 2018 (Week 20).

Additional Influenza Data Sources:

Centers for Disease Control and Prevention: National Influenza Surveillance (FluView):
http://www.cdc.gov/flu/weekly/fluactivitysurv.htm

The National Respiratory and Enteric Virus Surveillance System (NREVSS):
https://www.cdc.gov/surveillance/nrevss/

World Health Organization: International Influenza Surveillance:
http://www.who.int/influenza/surveillance_monitoring/en/

Missouri Weekly Influenza Surveillance Report
2017-2018 Influenza Season[1]

Week 43: October 22 – 28, 2017

All data are preliminary and may change as more reports are received.

Summary:

- The estimated influenza activity in Missouri is Sporadic[2].

- During Week 43, a total of 78 laboratory-positive[3] influenza cases (57 influenza A and 21 influenza B) were reported. A season-to-date total of 357 laboratory-positive influenza cases (263 influenza A, 93 influenza B, and one untyped) have been reported in Missouri as of Week 43. The influenza type for reported season-to-date cases includes 73% influenza A, 26% influenza B, and 1% untyped. Two laboratory-positive cases of influenza A (H3) were reported by the Missouri State Public Health Laboratory (MSPHL) during Week 43.

- Influenza-like illness (ILI) activity was below baseline for the Missouri Outpatient ILI Surveillance Network (ILINet). The reported percentage of outpatient visits for ILI was 1.14% (Figure 5).[4] The percentage of respiratory specimens testing positive for influenza in Missouri laboratories reporting to the National Respiratory and Enteric Virus Surveillance System (NREVSS) remained low during Week 43 (Figure 6). The ILI data from ESSENCE is currently not available due to system upgrades. The data and subsequent analysis will be included in future reports as available.

- One influenza-associated death has been reported in Missouri as of Week 43.[5] During Week 42, 43 deaths involving Pneumonia and Influenza (P&I) were reported to the Bureau of Vital Records, resulting in a season-to-date total of 105 P&I associated deaths in Missouri.[6]

- No influenza or ILI-associated outbreaks or school closures have been reported in Missouri as of Week 43.

- Influenza activity remained low in the U.S. during Week 42. National influenza surveillance information is prepared by CDC and is included in the weekly FluView report, which is available online at http://www.cdc.gov/flu/weekly/fluactivitysurv.htm.

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[1]The 2017-2018 influenza season begins CDC Week 40 (week ending October 7, 2017) and ends CDC Week 39 (week ending September 29, 2018).

[2]Sporadic is defined as: Small numbers of laboratory-confirmed influenza cases or a single laboratory-confirmed influenza outbreak has been reported, but there is no increase in cases of influenza-like illness.

[3]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

[4]Influenza-like illness (ILI) is defined by ILINet as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza. Influenza-like illness (ILI) is defined by ESSENCE as Emergency Department chief complaints that contain keywords such as “flu”, “flulike”, “influenza” or “fever” plus “cough” or “fever” plus “sore throat”.

[5]All influenza-associated deaths became reportable in Missouri in 2016.

[6]The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

Surveillance Data:

Interactive Maps

The jurisdiction-specific influenza data are provided though interactive maps available at http://arcg.is/1mKnWy. *Click on the jurisdiction to view the influenza data specific to that jurisdiction.*

- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, CDC Week 43**
- **Reported Week-specific Rate per 100,000 Population, CDC Week 43**
- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, Season-to-Date**
- **Reported Rate per 100,000 Population, Season-to-Date**

Data Figures

Figure 1. Number of Laboratory-positive† Influenza Cases by Influenza Type, Missouri, CDC Week 43 (October 22 – 28, 2017)*

Influenza Type	Week 41	Week 42	Week 43	2017-2018* Season-to-Date
Influenza A	57	81	57	263
Influenza B	33	23	21	93
Influenza Unknown Or Untyped	0	0	0	1
Total	90	104	78	357

†Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 2. Number of Laboratory-positive† Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 43 (October 22 – 28, 2017)*‡

Age Group	Week 43 Cases	Week 43 Rate‡	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate‡
00-04	21	5.61	84	22.44
05-24	19	1.18	90	5.61
25-49	12	0.63	84	4.39
50-64	11	0.89	39	3.15
65+	15	1.57	60	6.28
Total	78	1.28	357	5.87

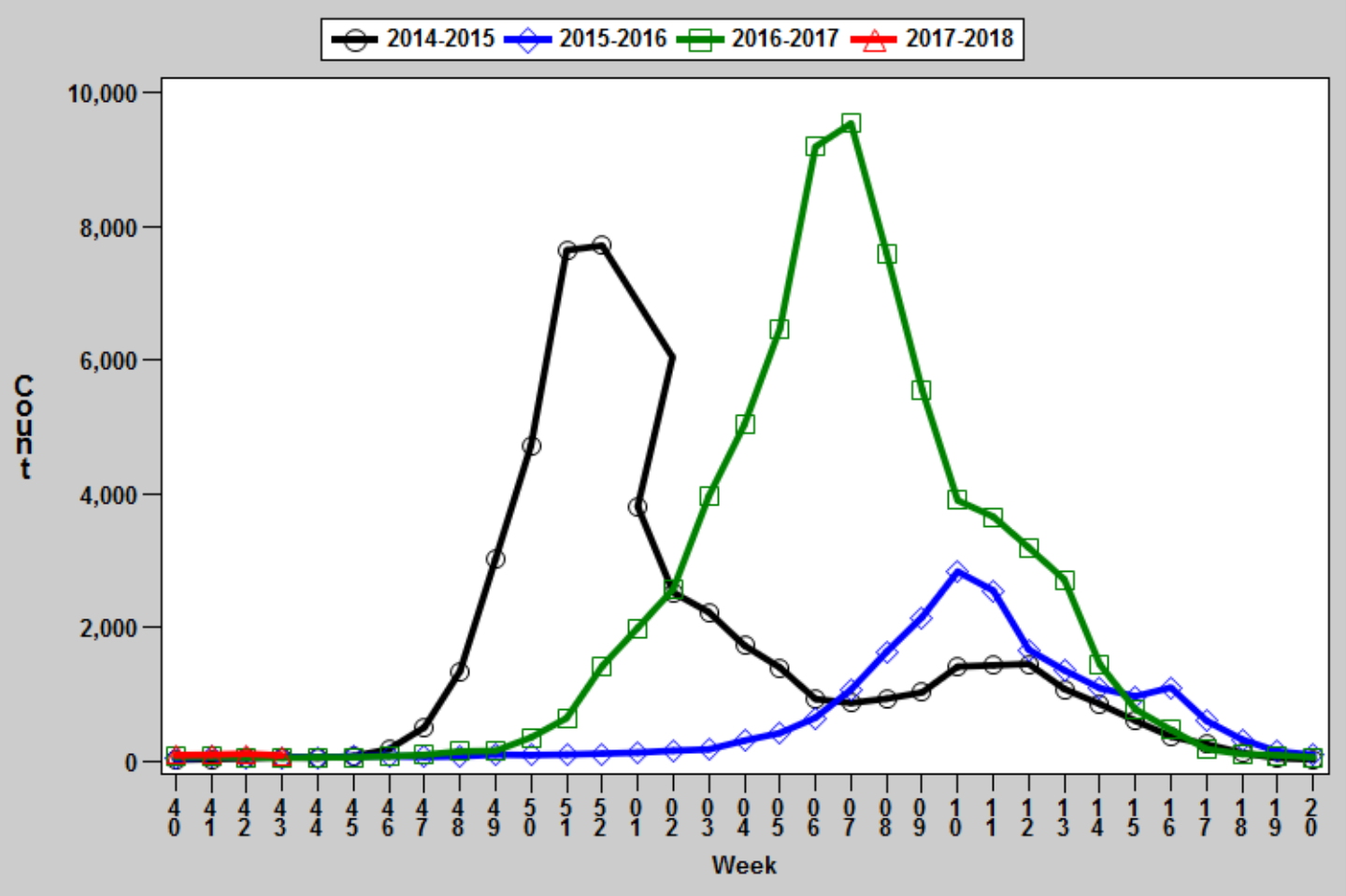
†Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
‡Incidence Rate per 100,000 population

Figure 3. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Region, Missouri, CDC Week 43 (October 22 – 28, 2017)[*‡]

District	Week 43 Cases	Week 43 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
Central	11	1.62	37	5.47
Eastern	19	0.84	123	5.43
Northwest	13	0.81	60	3.76
Southeast	28	5.94	99	20.99
Southwest	7	0.65	38	3.55
Total	78	1.28	357	5.87

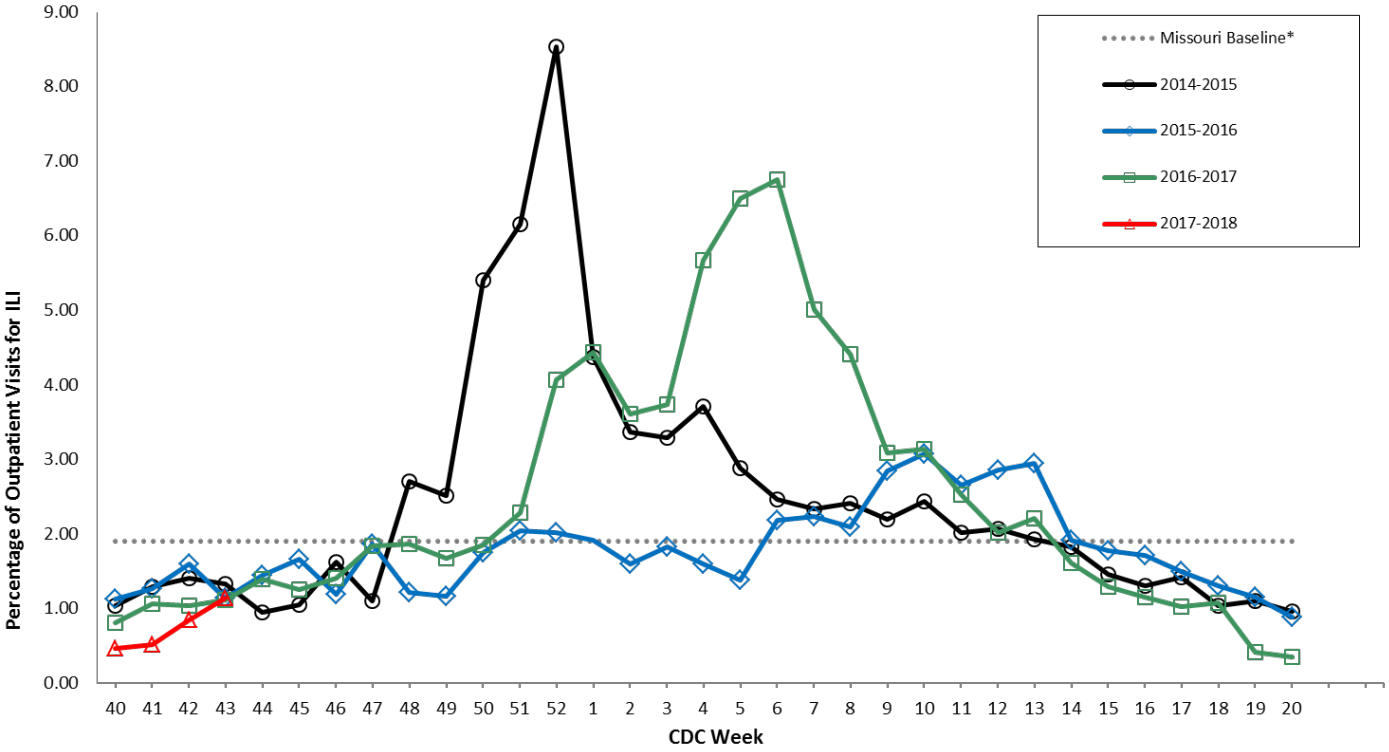
[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 4. Number of Laboratory-positive[†] Influenza Cases by CDC Week, Missouri, 2014-2018[*]



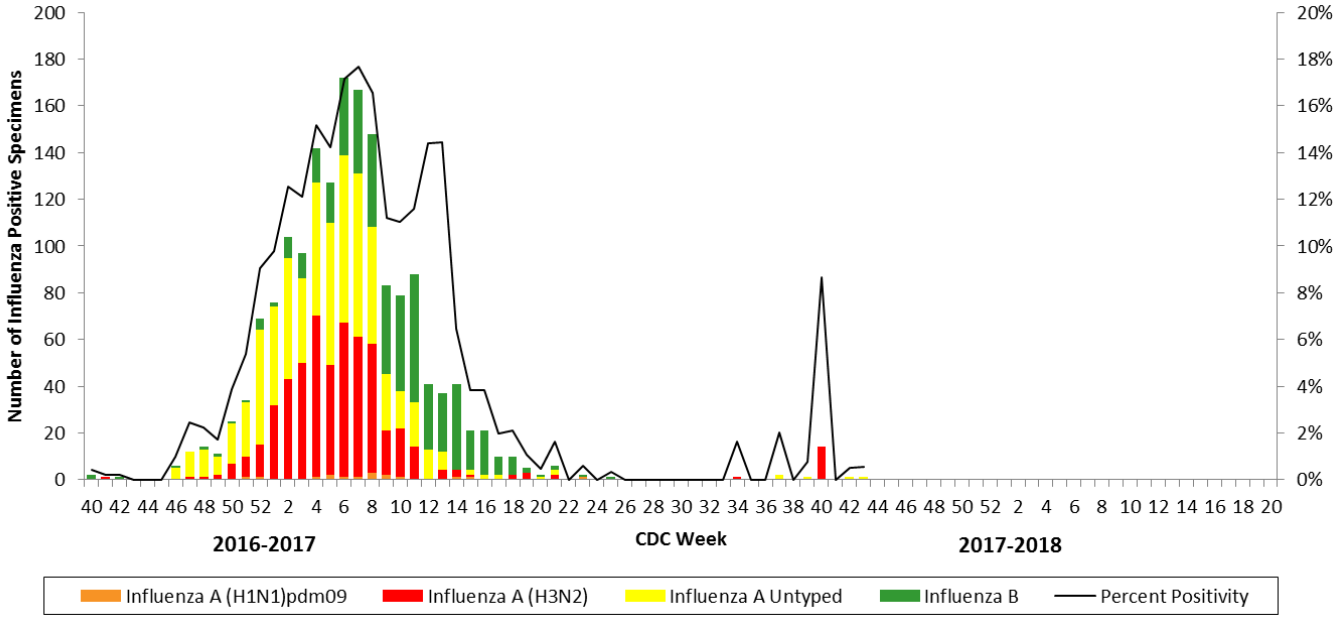
[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. Week 53, 2014-2015 flu season has 3,082 reported confirmed cases. Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 5. Percentage of Outpatient Visits for Influenza-like Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2014-2018*†



*The ILINet Region 7 (MO, IA, KS, NE) baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons, plus two standard deviations. A non-influenza week is defined as periods of two or more consecutive weeks in which each week accounted for less than 2% of the season's total number of specimens that tested positive for influenza.
Data Source: U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Centers for Disease Control and Prevention (CDC).
†2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of outpatient visits for ILI during Week 53 was 7.63.

Figure 6. Season-to-Date PCR (+) Tests for Influenza in Missouri



Data Source: National Respiratory and Enteric Virus Surveillance System (NREVSS), Centers for Disease Control and Prevention (CDC).
2016-2017 season-to-date through the week ending May 19, 2018 (Week 20).

Additional Influenza Data Sources:

Centers for Disease Control and Prevention: National Influenza Surveillance (FluView):
http://www.cdc.gov/flu/weekly/fluactivitysurv.htm

The National Respiratory and Enteric Virus Surveillance System (NREVSS):
https://www.cdc.gov/surveillance/nrevss/

World Health Organization: International Influenza Surveillance:
http://www.who.int/influenza/surveillance_monitoring/en/

Missouri Weekly Influenza Surveillance Report
2017-2018 Influenza Season[1]

Week 44: October 29 – November 4, 2017

All data are preliminary and may change as more reports are received.

Summary:

- The estimated influenza activity in Missouri is Sporadic[2].

- During Week 44, a total of 141 laboratory-positive[3] influenza cases (107 influenza A, 33 influenza B, and one untyped) were reported. A season-to-date total of 618 laboratory-positive influenza cases (464 influenza A, 145 influenza B, and nine untyped) have been reported in Missouri as of Week 44. The influenza type for reported season-to-date cases includes 75% influenza A, 24% influenza B, and 1% untyped. One laboratory-positive case of influenza A (H3) was reported by the Missouri State Public Health Laboratory (MSPHL) during Week 44.

- Influenza-like illness (ILI) activity was below baseline for the Missouri Outpatient ILI Surveillance Network (ILINet). The reported percentage of outpatient visits for ILI was 1.62% (Figure 5).[4] The percentage of respiratory specimens testing positive for influenza in Missouri laboratories reporting to the National Respiratory and Enteric Virus Surveillance System (NREVSS) increased during Week 44 (Figure 6). The ILI data from ESSENCE is currently not available due to system upgrades. The data and subsequent analysis will be included in future reports as available.

- One influenza-associated death has been reported in Missouri as of Week 44.[5] During Week 43, 27 deaths involving Pneumonia and Influenza (P&I) were reported to the Bureau of Vital Records, resulting in a season-to-date total of 132 P&I associated deaths in Missouri.[6]

- One outbreak of influenza A was reported in a long-term care facility and no influenza or ILI-associated school closures have been reported in Missouri as of Week 44.

- Influenza activity remained low in the U.S. during Week 43. National influenza surveillance information is prepared by CDC and is included in the weekly FluView report, which is available online at http://www.cdc.gov/flu/weekly/fluactivitysurv.htm.

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[1]The 2017-2018 influenza season begins CDC Week 40 (week ending October 7, 2017) and ends CDC Week 39 (week ending September 29, 2018).

[2]Sporadic is defined as: Small numbers of laboratory-confirmed influenza cases or a single laboratory-confirmed influenza outbreak has been reported, but there is no increase in cases of influenza-like illness.

[3]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

[4]Influenza-like illness (ILI) is defined by ILINet as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza. Influenza-like illness (ILI) is defined by ESSENCE as Emergency Department chief complaints that contain keywords such as "flu", "flulike", "influenza" or "fever" plus "cough" or "fever" plus "sore throat".

[5]All influenza-associated deaths became reportable in Missouri in 2016.

[6]The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

Surveillance Data:

Interactive Maps

The jurisdiction-specific influenza data are provided though interactive maps available at http://arcg.is/0q4iKm. *Click on the jurisdiction to view the influenza data specific to that jurisdiction.*

- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, CDC Week 44**
- **Reported Week-specific Rate per 100,000 Population, CDC Week 44**
- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, Season-to-Date**
- **Reported Rate per 100,000 Population, Season-to-Date**

Data Figures

Figure 1. Number of Laboratory-positive[†] Influenza Cases by Influenza Type, Missouri, CDC Week 44 (October 29 – November 4, 2017)[*]

Influenza Type	Week 42	Week 43	Week 44	2017-2018* Season-to-Date
Influenza A	112	93	107	464
Influenza B	26	29	33	145
Influenza Unknown Or Untyped	2	3	1	9
Total	140	125	141	618

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 2. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 44 (October 29 – November 4, 2017)[*‡]

Age Group	Week 44 Cases	Week 44 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
00-04	17	4.54	123	32.86
05-24	44	2.74	181	11.28
25-49	15	0.78	127	6.64
50-64	16	1.29	70	5.66
65+	49	5.13	117	12.25
Total	141	2.32	618	10.16

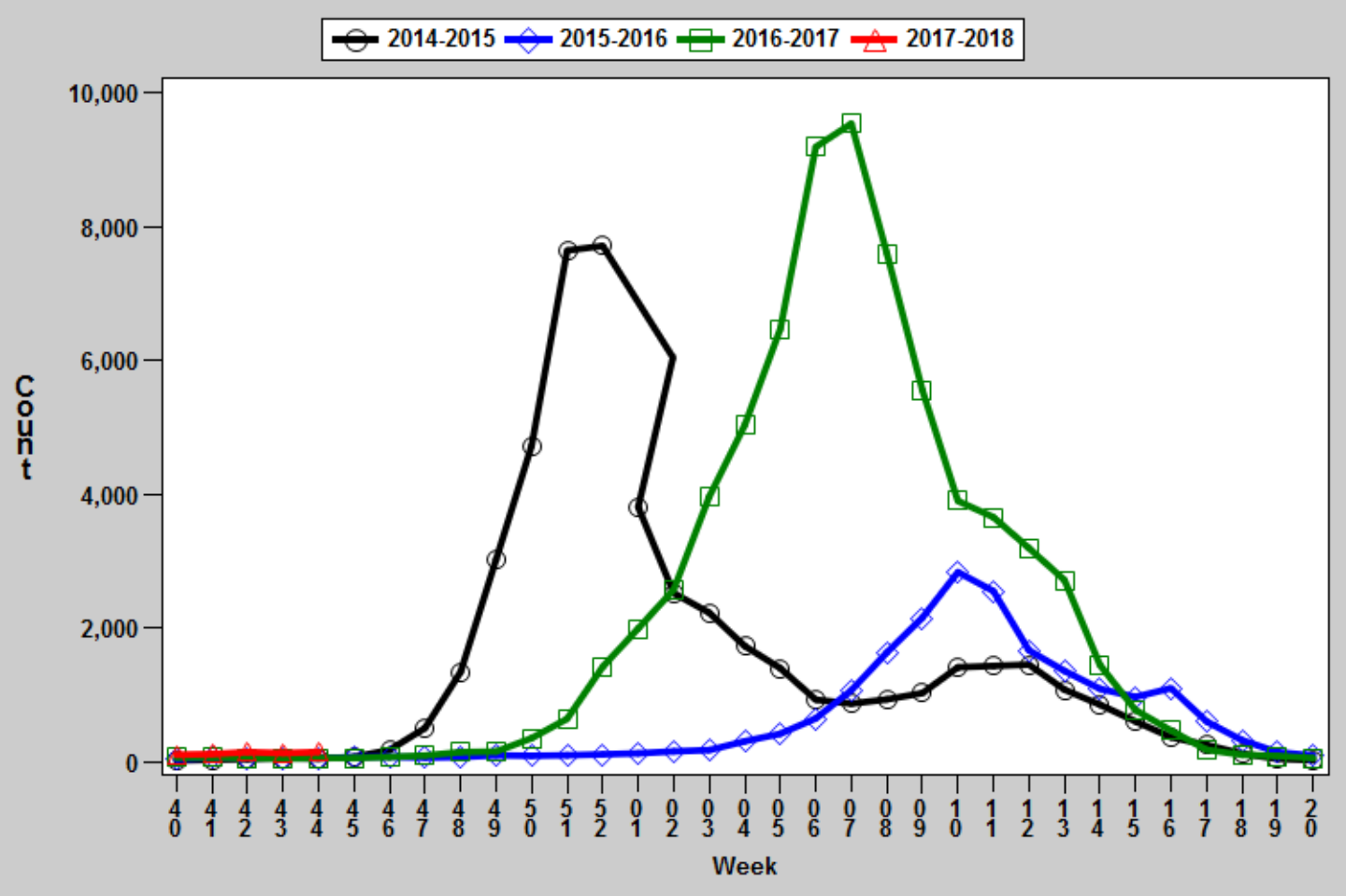
[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 3. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Region, Missouri, CDC Week 44 (October 29 – November 4, 2017)[*‡]

District	Week 44 Cases	Week 44 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
Central	3	0.44	53	7.83
Eastern	25	1.10	148	6.53
Northwest	54	3.38	143	8.95
Southeast	20	4.24	194	41.13
Southwest	39	3.64	80	7.47
Total	141	2.32	618	10.16

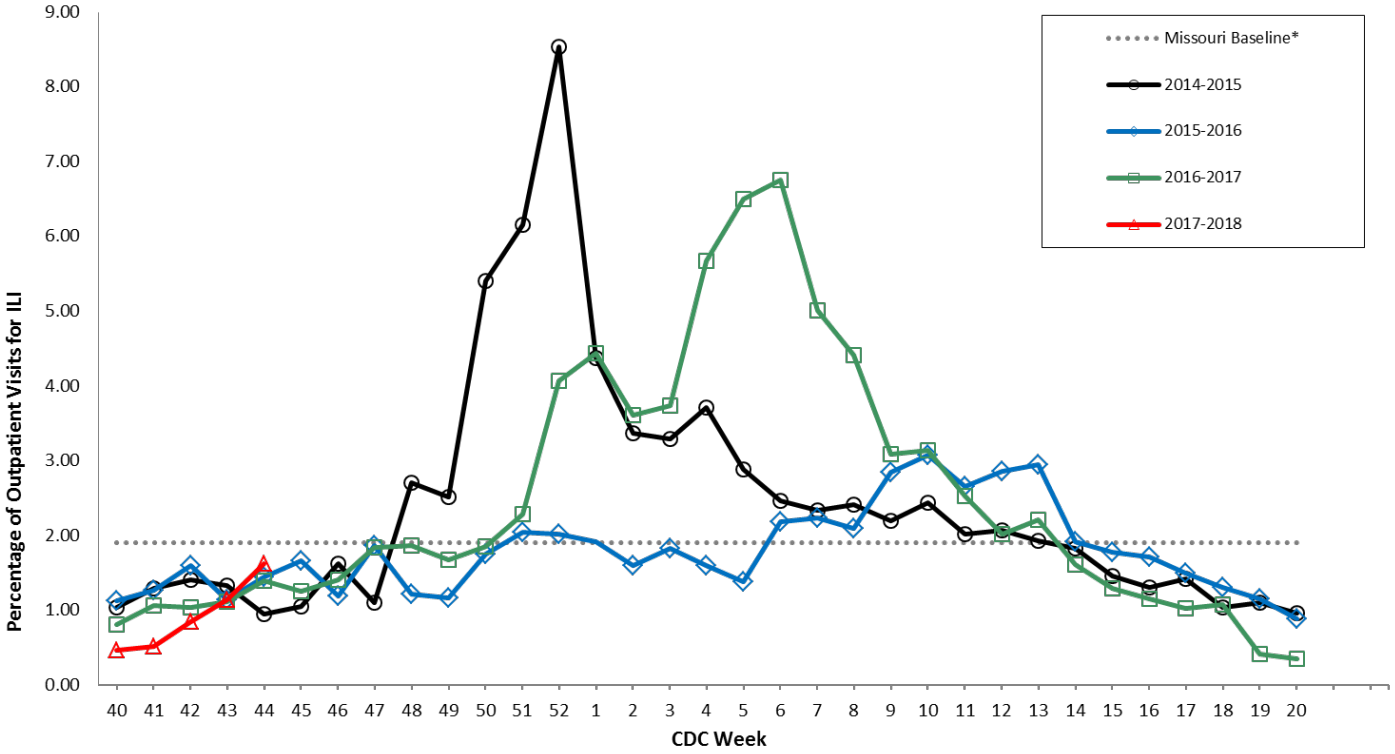
[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 4. Number of Laboratory-positive[†] Influenza Cases by CDC Week, Missouri, 2014-2018[*]



[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. Week 53, 2014-2015 flu season has 3,082 reported confirmed cases. Data Source: Missouri Health Information Surveillance System (WebSurv).

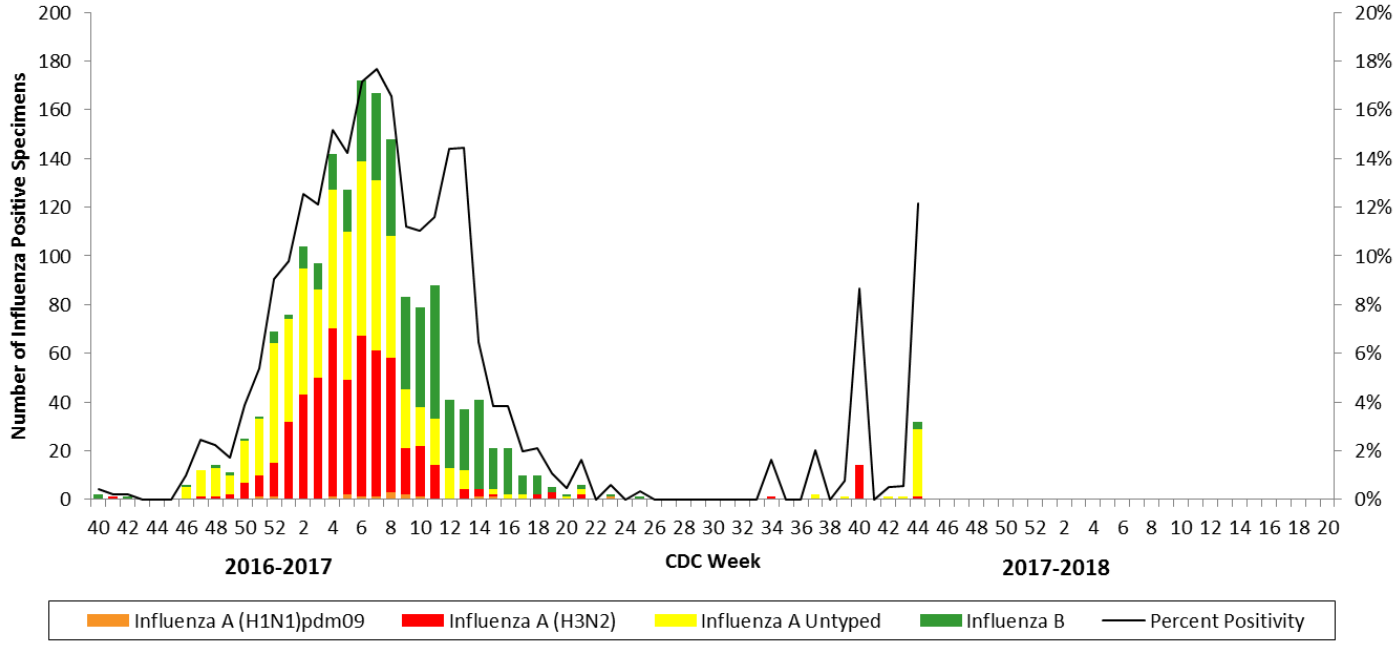
Figure 5. Percentage of Outpatient Visits for Influenza-like Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2014-2018*†



*The ILINet Region 7 (MO, IA, KS, NE) baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons, plus two standard deviations. A non-influenza week is defined as periods of two or more consecutive weeks in which each week accounted for less than 2% of the season's total number of specimens that tested positive for influenza.
Data Source: U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Centers for Disease Control and Prevention (CDC).

†2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of outpatient visits for ILI during Week 53 was 7.63.

Figure 6. Season-to-Date PCR (+) Tests for Influenza in Missouri



Data Source: National Respiratory and Enteric Virus Surveillance System (NREVSS), Centers for Disease Control and Prevention (CDC).
2016-2017 season-to-date through the week ending May 19, 2018 (Week 20).

Additional Influenza Data Sources:

Centers for Disease Control and Prevention: National Influenza Surveillance (FluView):
http://www.cdc.gov/flu/weekly/fluactivitysurv.htm

The National Respiratory and Enteric Virus Surveillance System (NREVSS):
https://www.cdc.gov/surveillance/nrevss/

World Health Organization: International Influenza Surveillance:
http://www.who.int/influenza/surveillance_monitoring/en/

Missouri Weekly Influenza Surveillance Report
2017-2018 Influenza Season[1]

Week 45: November 5 – 11, 2017

All data are preliminary and may change as more reports are received.

Summary:

- The estimated influenza activity in Missouri is Sporadic[2].
- During Week 45, a total of 207 laboratory-positive[3] influenza cases (130 influenza A, 76 influenza B, and one untyped) were reported. A season-to-date total of 886 laboratory-positive influenza cases (634 influenza A, 242 influenza B, and 10 untyped) have been reported in Missouri as of Week 45. The influenza type for reported season-to date cases includes 72% influenza A, 27% influenza B, and 1% untyped. Sixteen laboratory-positive cases of influenza A (H3) were reported by the Missouri State Public Health Laboratory (MSPHL) during Week 45.
- Influenza-like illness (ILI) activity was below baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 1.35% (Figure 5) and 1.65% (Figure 7) through ILINet and ESSENCE respectively.[4] The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution. The percentage of respiratory specimens testing positive for influenza in Missouri laboratories reporting to the National Respiratory and Enteric Virus Surveillance System (NREVSS) was low during Week 45 (Figure 6).
- One influenza-associated death has been reported in Missouri as of Week 45.[5] During Week 44, 66 deaths involving Pneumonia and Influenza (P&I) were reported to the Bureau of Vital Records, resulting in a season-to-date total of 198 P&I associated deaths in Missouri.[6]
- One outbreak of influenza A (H3) and no influenza or ILI-associated school closures have been reported in Missouri as of Week 45.
- Influenza activity remained low but increased in the U.S. during Week 44. National influenza surveillance information is prepared by CDC and is included in the weekly FluView report, which is available online at http://www.cdc.gov/flu/weekly/fluactivitysurv.htm.

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[1]The 2017-2018 influenza season begins CDC Week 40 (week ending October 7, 2017) and ends CDC Week 39 (week ending September 29, 2018).

[2]Sporadic is defined as: Small numbers of laboratory-confirmed influenza cases or a single laboratory-confirmed influenza outbreak has been reported, but there is no increase in cases of influenza-like illness.

[3]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

[4]Influenza-like illness (ILI) is defined by ILINet as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza. ILI is defined by ESSENCE as Emergency Department chief complaints for Influenza or (FeverPlus and (Cough or SoreThroat) and not NonILIFevers).

[5]All influenza-associated deaths became reportable in Missouri in 2016.

[6]The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

Surveillance Data:

Interactive Maps

The jurisdiction-specific influenza data are provided though interactive maps available at http://arcg.is/111y8L. *Click on the jurisdiction to view the influenza data specific to that jurisdiction.*

- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, CDC Week 45**
- **Reported Week-specific Rate per 100,000 Population, CDC Week 45**
- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, Season-to-Date**
- **Reported Rate per 100,000 Population, Season-to-Date**

Data Figures

Figure 1. Number of Laboratory-positive† Influenza Cases by Influenza Type, Missouri, CDC Week 45 (November 5 – 11, 2017)*

Influenza Type	Week 43	Week 44	Week 45	2017-2018* Season-to-Date
Influenza A	105	135	130	634
Influenza B	29	54	76	242
Influenza Unknown Or Untyped	3	1	1	10
Total	137	190	207	886

†Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 2. Number of Laboratory-positive† Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 45 (November 5 – 11, 2017)*‡

Age Group	Week 45 Cases	Week 45 Rate‡	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate‡
00-04	31	8.28	160	42.74
05-24	76	4.74	278	17.33
25-49	40	2.09	187	9.77
50-64	25	2.02	102	8.25
65+	35	3.67	159	16.65
Total	207	3.40	886	14.56

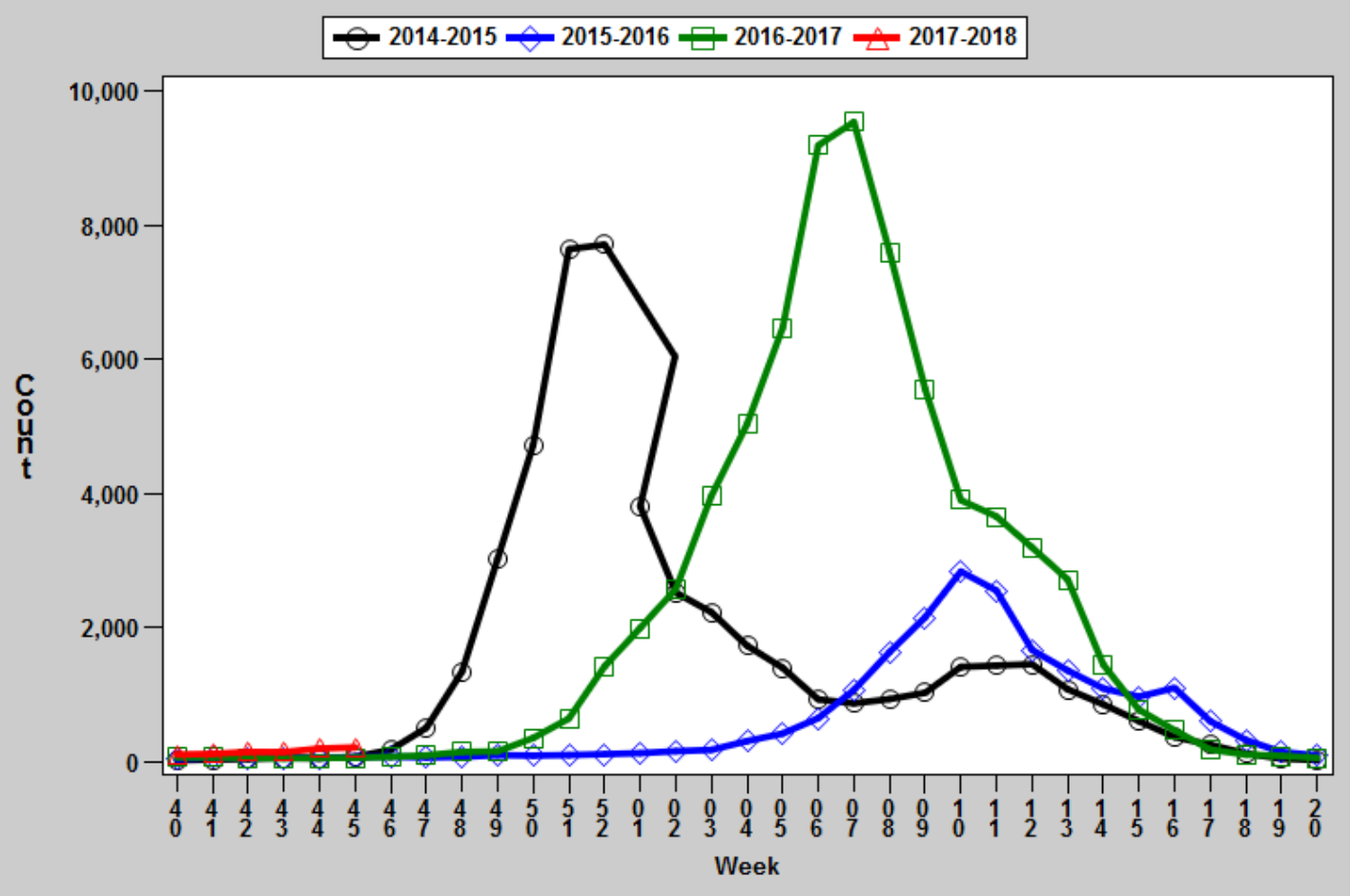
†Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
‡Incidence Rate per 100,000 population

Figure 3. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Region, Missouri, CDC Week 45 (November 5 – 11, 2017)[*‡]

Region	Week 45 Cases	Week 45 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
Central	13	1.92	76	11.23
Eastern	38	1.68	204	9.00
Northwest	52	3.26	206	12.89
Southeast	41	8.69	244	51.73
Southwest	63	5.88	156	14.56
Total	207	3.40	886	14.56

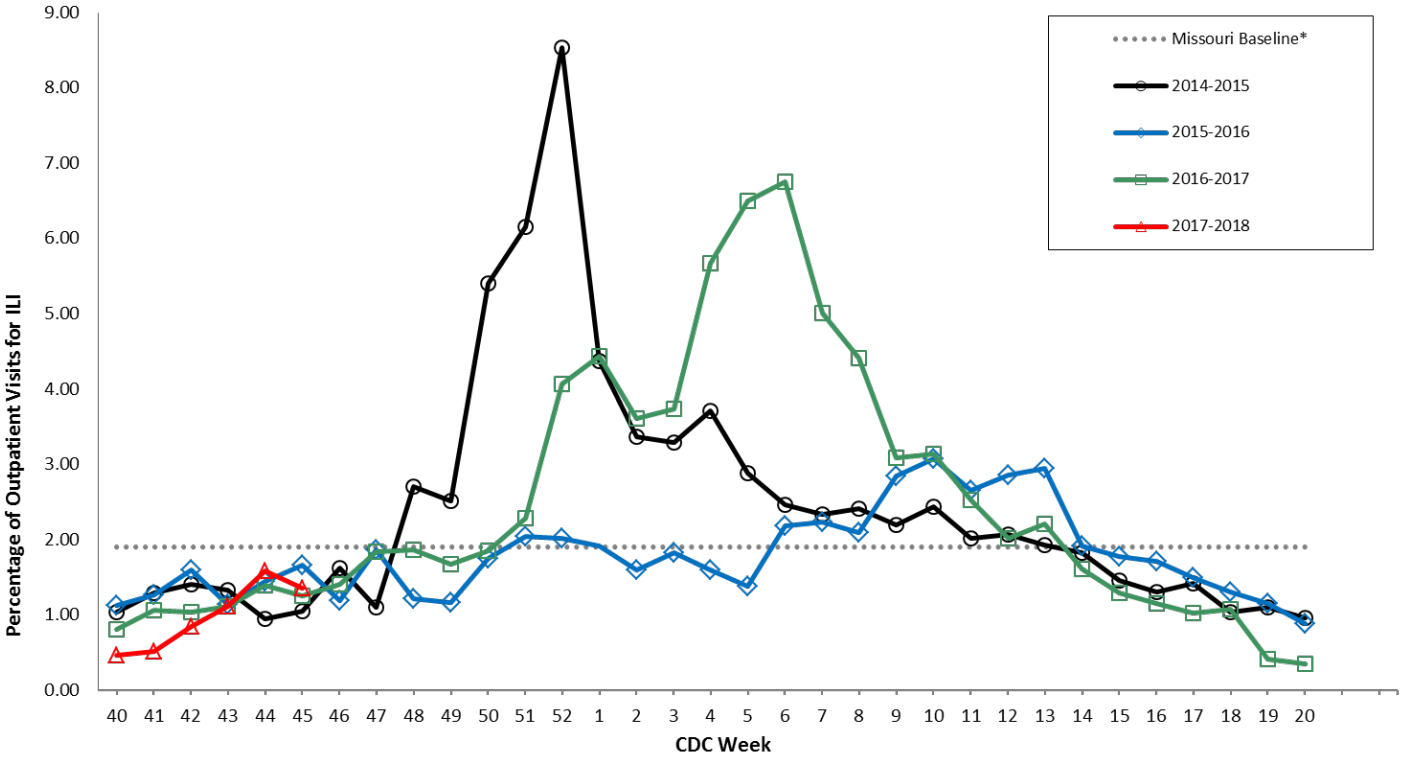
[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 4. Number of Laboratory-positive[†] Influenza Cases by CDC Week, Missouri, 2014-2018[*]



[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. Week 53, 2014-2015 flu season has 3,082 reported confirmed cases. Data Source: Missouri Health Information Surveillance System (WebSurv).

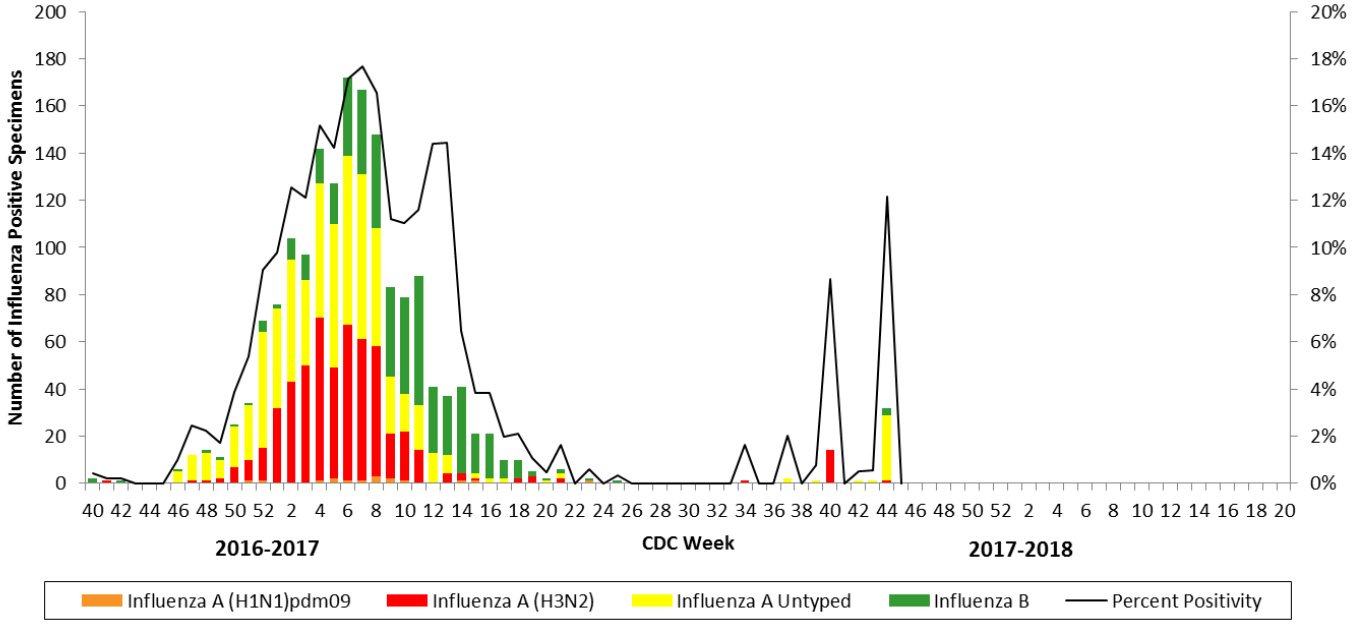
Figure 5. Percentage of Outpatient Visits for Influenza-like Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2014-2018*†



*The ILINet Region 7 (MO, IA, KS, NE) baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons, plus two standard deviations. A non-influenza week is defined as periods of two or more consecutive weeks in which each week accounted for less than 2% of the season's total number of specimens that tested positive for influenza.
Data Source: U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Centers for Disease Control and Prevention (CDC).

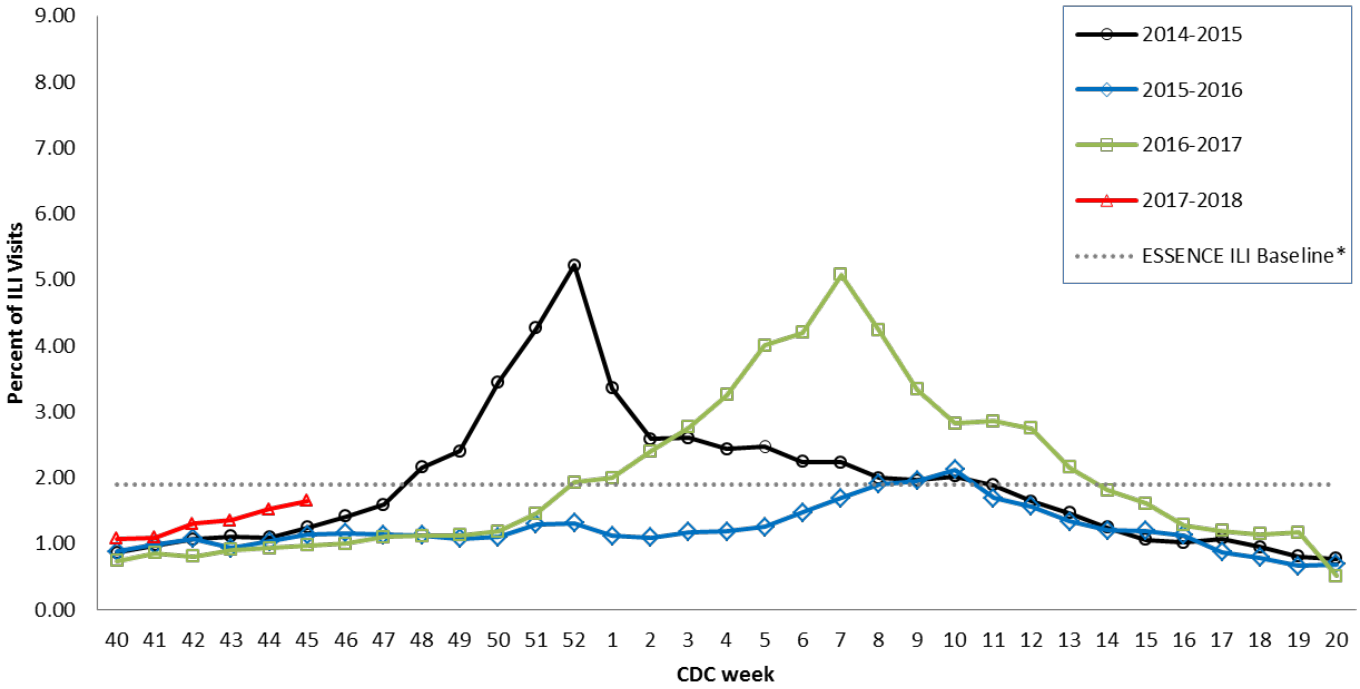
†2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of outpatient visits for ILI during Week 53 was 7.63.

Figure 6. Season-to-Date PCR (+) Tests for Influenza in Missouri



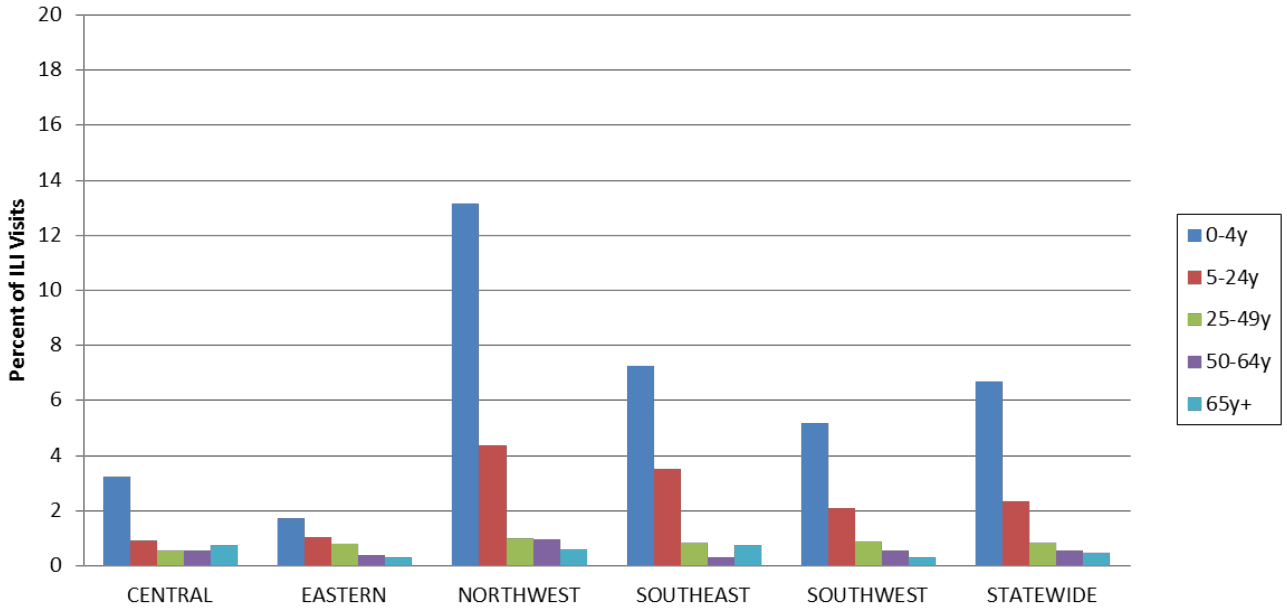
Data Source: National Respiratory and Enteric Virus Surveillance System (NREVSS), Centers for Disease Control and Prevention (CDC).
2016-2017 season-to-date through the week ending May 19, 2018 (Week 20).

Figure 7. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, 2014-2018 Influenza Seasons*†‡



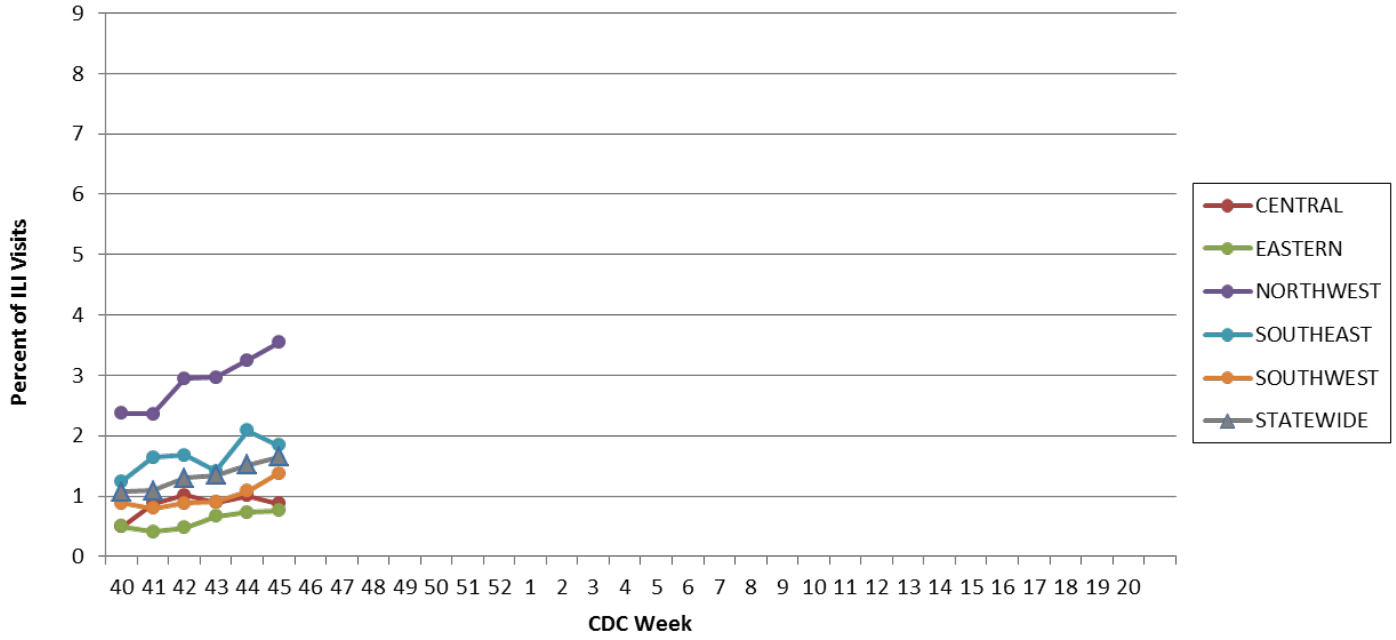
*The ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2014-16) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
†The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of visits for ILI in ESSENCE participating hospitals during Week 53 was 4.38%.
‡The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 8. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Age Group, Region and Statewide, Week 45, 2017*



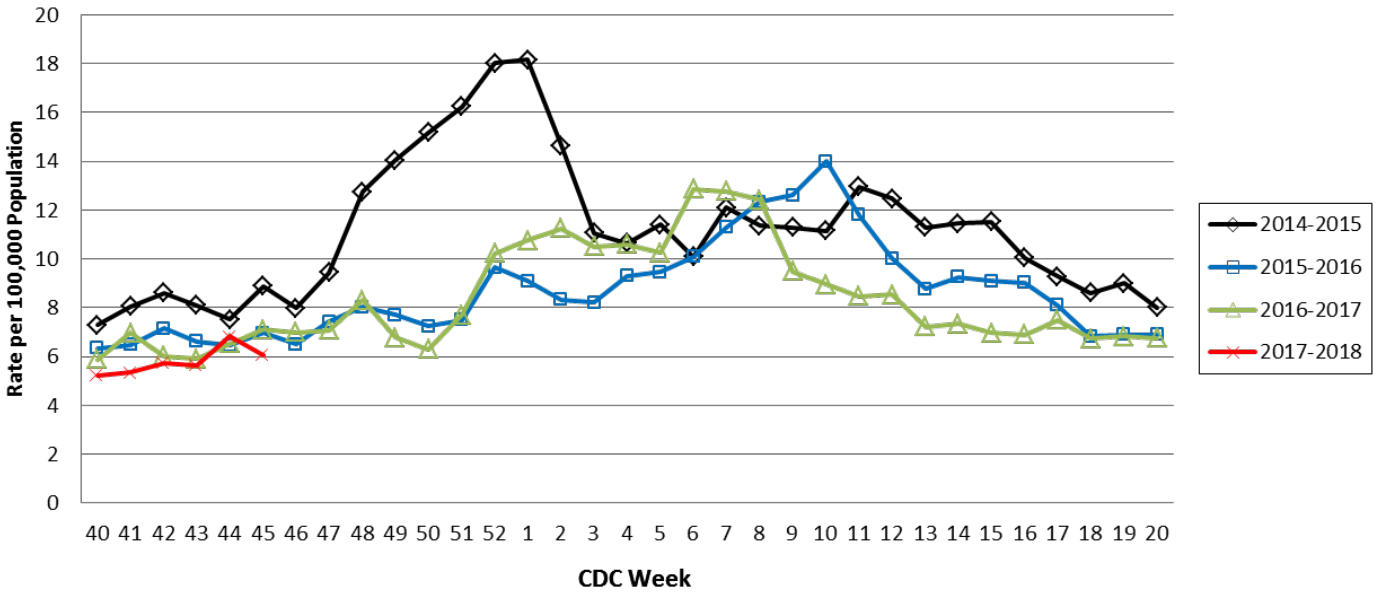
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 9. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Region and Statewide, 2017-2018 Influenza Season*



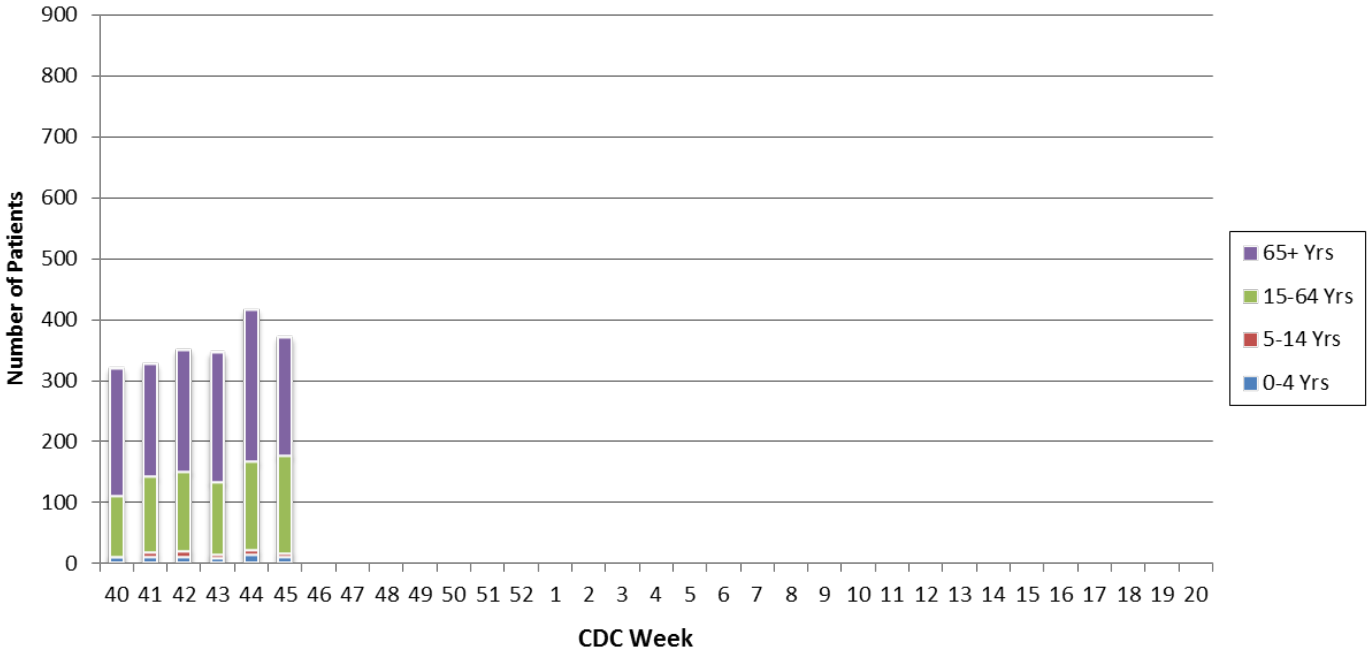
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 10. Weekly Rate of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Missouri Hospitals, 2014-2018 Influenza Seasons



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.
Population data from DHSS Population MICA 2015 (http://health.mo.gov/data/mica/mica/population.php).

Figure 11. Number of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Participating Missouri Hospitals, by Age Group, Week 45, 2017-2018 Influenza Season



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.

Additional Influenza Data Sources:

Centers for Disease Control and Prevention: National Influenza Surveillance (FluView):
http://www.cdc.gov/flu/weekly/fluactivitysurv.htm

The National Respiratory and Enteric Virus Surveillance System (NREVSS):
https://www.cdc.gov/surveillance/nrevss/

World Health Organization: International Influenza Surveillance:
http://www.who.int/influenza/surveillance_monitoring/en/

Missouri Weekly Influenza Surveillance Report
2017-2018 Influenza Season[1]

Week 46: November 12 – 18, 2017

All data are preliminary and may change as more reports are received.

Summary:

- The estimated influenza activity in Missouri is Sporadic[2].

- During Week 46, a total of 201 laboratory-positive[3] influenza cases (102 influenza A, 96 influenza B, and three untyped) were reported. A season-to-date total of 1,171 laboratory-positive influenza cases (799 influenza A, 359 influenza B, and 13 untyped) have been reported in Missouri as of Week 46. The influenza type for reported season-to date cases includes 68% influenza A, 31% influenza B, and 1% untyped. Three laboratory-positive cases of influenza A (H3) were reported by the Missouri State Public Health Laboratory (MSPHL) during Week 46.

- Influenza-like illness (ILI) activity was below baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 1.66% (Figure 5) and 1.71% (Figure 7) through ILINet and ESSENCE respectively.[4] The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution. The percentage of respiratory specimens testing positive for influenza in Missouri laboratories reporting to the National Respiratory and Enteric Virus Surveillance System (NREVSS) increased during Week 46 (Figure 6).

- One influenza-associated death has been reported in Missouri as of Week 46.[5] During Week 45, 48 deaths involving Pneumonia and Influenza (P&I) were reported to the Bureau of Vital Records, resulting in a season-to-date total of 246 P&I associated deaths in Missouri.[6]

- One outbreak of influenza A (H3) and no influenza or ILI-associated school closures have been reported in Missouri as of Week 46.

- Influenza activity increased in the U.S. during Week 45. National influenza surveillance information is prepared by CDC and is included in the weekly FluView report, which is available online at http://www.cdc.gov/flu/weekly/fluactivitysurv.htm.

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[1]The 2017-2018 influenza season begins CDC Week 40 (week ending October 7, 2017) and ends CDC Week 39 (week ending September 29, 2018).

[2]Sporadic is defined as: Small numbers of laboratory-confirmed influenza cases or a single laboratory-confirmed influenza outbreak has been reported, but there is no increase in cases of influenza-like illness.

[3]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

[4]Influenza-like illness (ILI) is defined by ILINet as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza. ILI is defined by ESSENCE as Emergency Department chief complaints for Influenza or (FeverPlus and (Cough or SoreThroat) and not NonILIFevers).

[5]All influenza-associated deaths became reportable in Missouri in 2016.

[6]The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

Surveillance Data:

Interactive Maps

The jurisdiction-specific influenza data are provided though interactive maps available at http://arcg.is/0ei5zK. *Click on the jurisdiction to view the influenza data specific to that jurisdiction.*

- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, CDC Week 46**
- **Reported Week-specific Rate per 100,000 Population, CDC Week 46**
- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, Season-to-Date**
- **Reported Rate per 100,000 Population, Season-to-Date**

Data Figures

Figure 1. Number of Laboratory-positive[†] Influenza Cases by Influenza Type, Missouri, CDC Week 46 (November 12 – 18, 2017)[*]

Influenza Type	Week 44	Week 45	Week 46	2017-2018* Season-to-Date
Influenza A	147	177	102	799
Influenza B	54	97	96	359
Influenza Unknown Or Untyped	1	1	3	13
Total	202	275	201	1,171

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 2. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 46 (November 12 – 18, 2017)[*‡]

Age Group	Week 46 Cases	Week 46 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
00-04	39	10.42	228	60.90
05-24	69	4.30	371	23.12
25-49	30	1.57	227	11.86
50-64	33	2.67	146	11.81
65+	30	3.14	199	20.84
Total	201	3.30	1,171	19.25

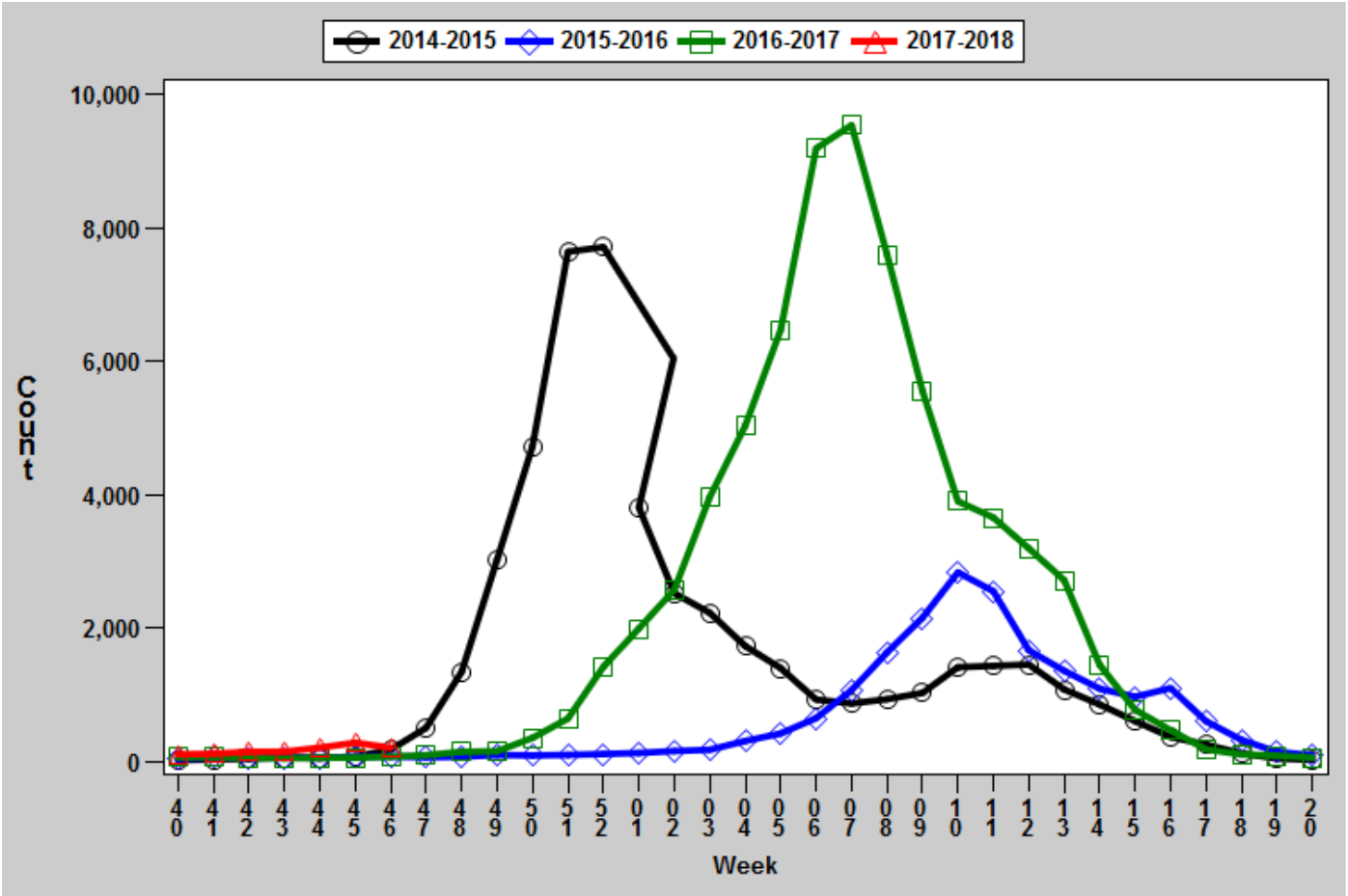
[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 3. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Region, Missouri, CDC Week 46 (November 12 – 18, 2017)[*‡]

Region	Week 46 Cases	Week 46 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
Central	9	1.33	102	15.07
Eastern	48	2.12	257	11.34
Northwest	42	2.63	270	16.90
Southeast	33	7.00	308	65.30
Southwest	69	6.44	234	21.84
Total	201	3.30	1,171	19.25

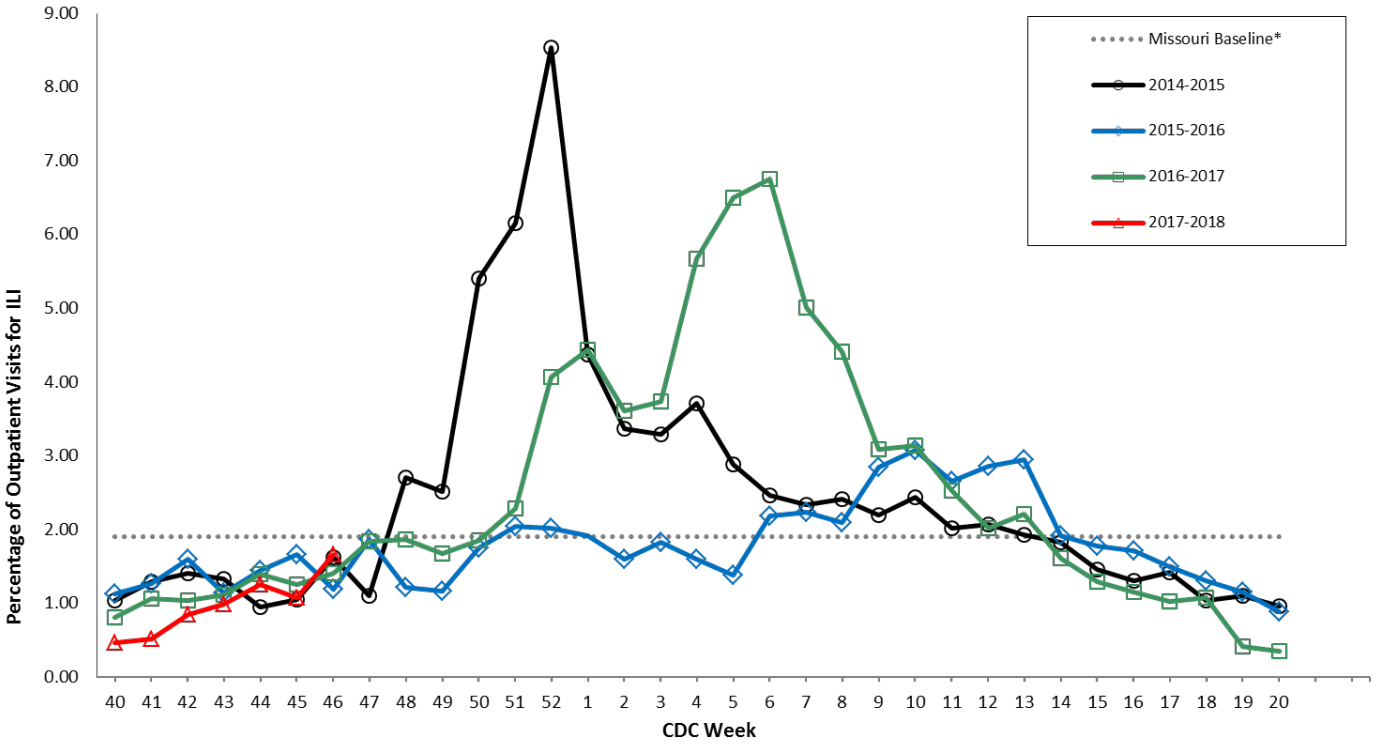
[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 4. Number of Laboratory-positive[†] Influenza Cases by CDC Week, Missouri, 2014-2018[*]



[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. Week 53, 2014-2015 flu season has 3,082 reported confirmed cases. Data Source: Missouri Health Information Surveillance System (WebSurv).

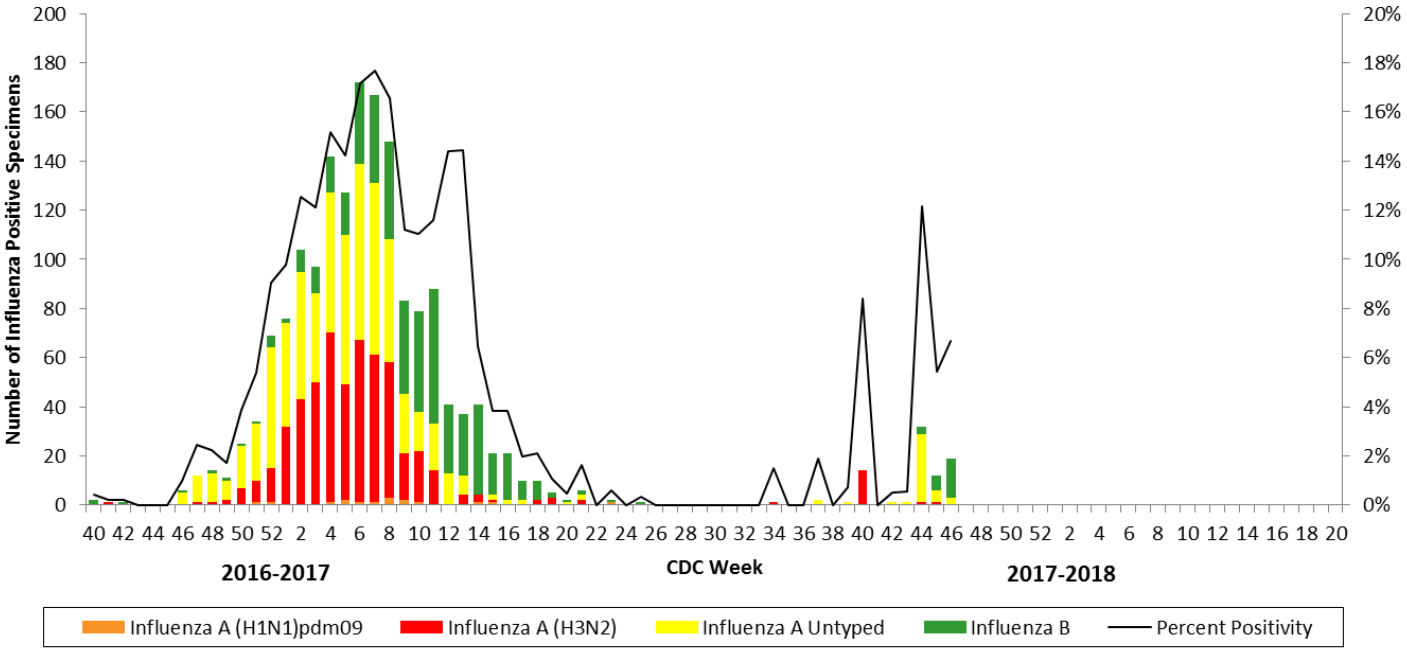
Figure 5. Percentage of Outpatient Visits for Influenza-like Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2014-2018*†



*The ILINet Region 7 (MO, IA, KS, NE) baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons, plus two standard deviations. A non-influenza week is defined as periods of two or more consecutive weeks in which each week accounted for less than 2% of the season's total number of specimens that tested positive for influenza.
Data Source: U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Centers for Disease Control and Prevention (CDC).

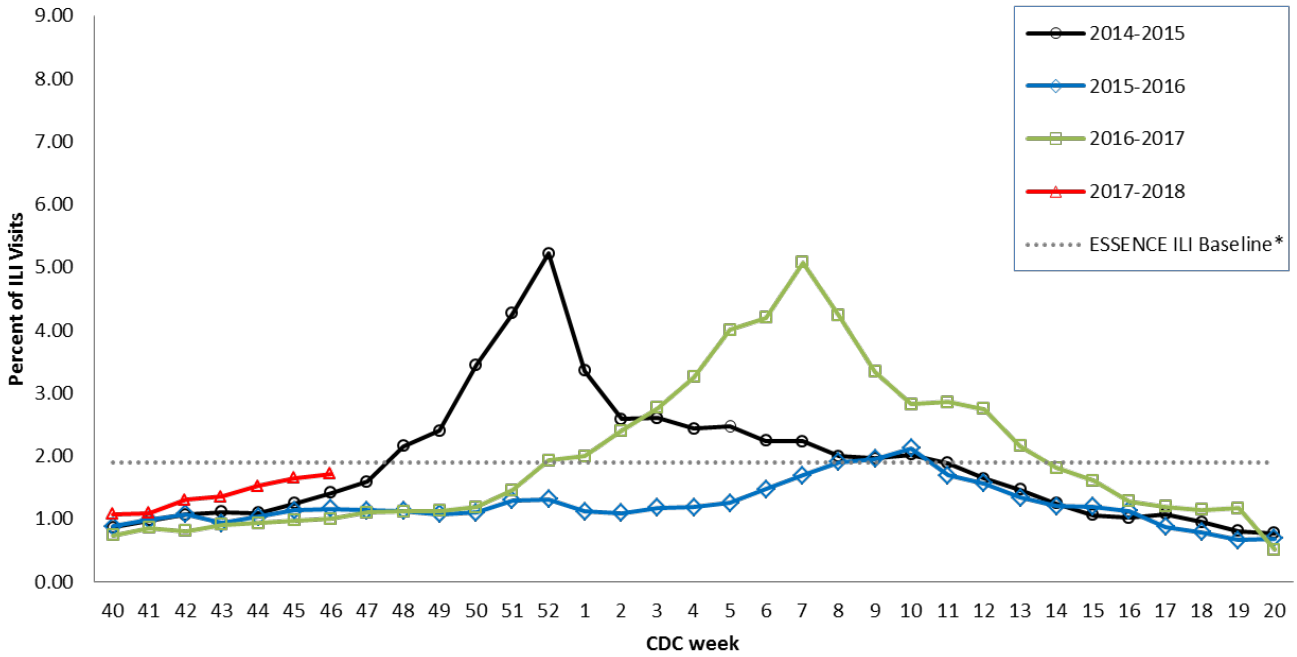
†2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of outpatient visits for ILI during Week 53 was 7.63.

Figure 6. Season-to-Date PCR (+) Tests for Influenza in Missouri



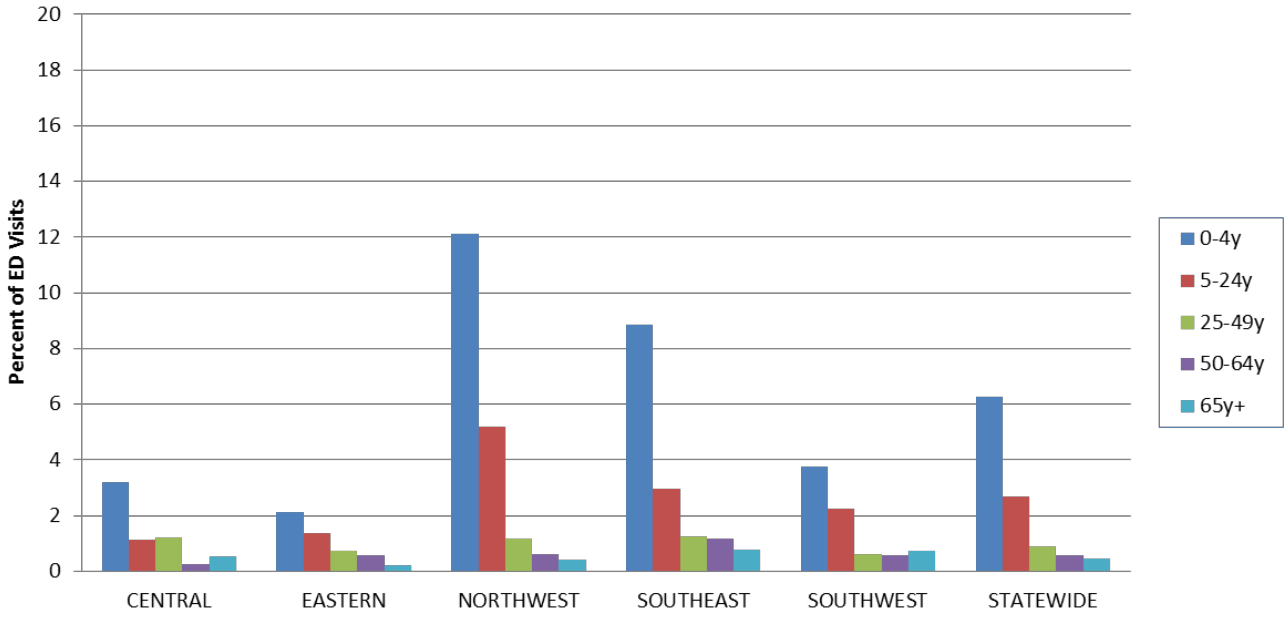
Data Source: National Respiratory and Enteric Virus Surveillance System (NREVSS), Centers for Disease Control and Prevention (CDC).
2016-2017 season-to-date through the week ending May 19, 2018 (Week 20).

Figure 7. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, 2014-2018 Influenza Seasons*†‡



*The ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2014-16) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
†The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of visits for ILI in ESSENCE participating hospitals during Week 53 was 4.38%.
‡The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 8. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Age Group, Region and Statewide, Week 46, 2017*



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

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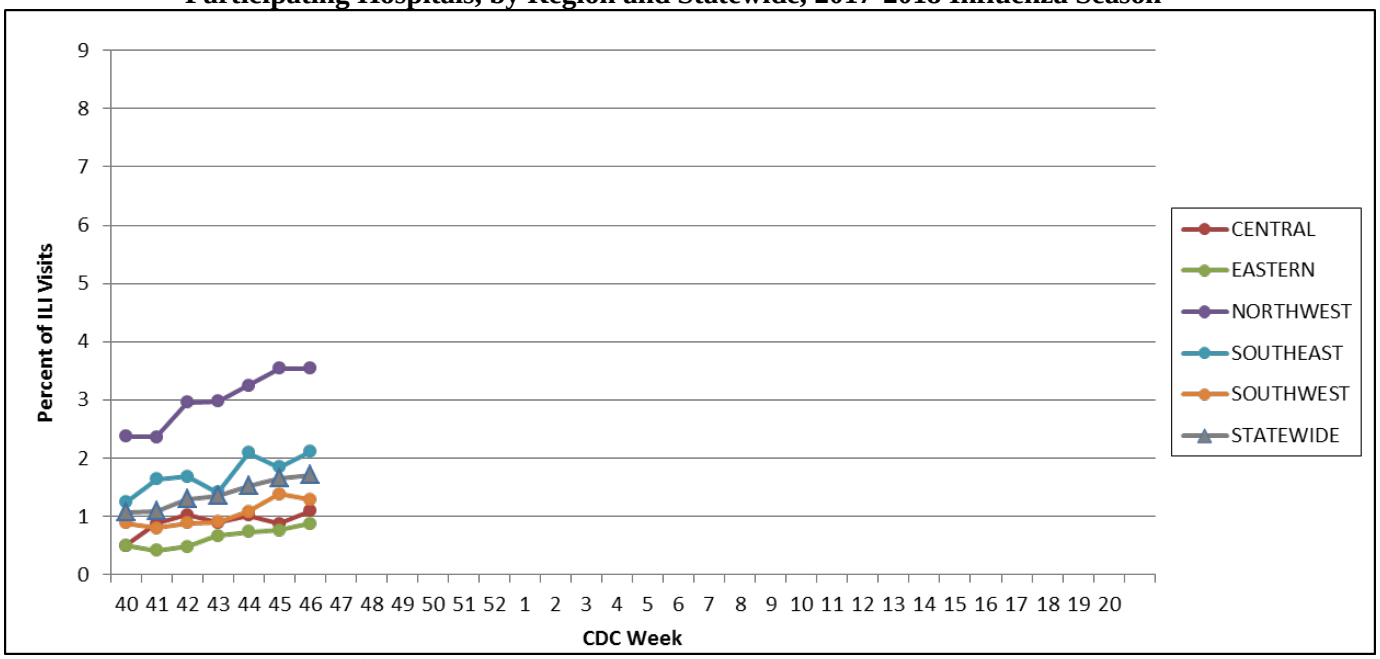
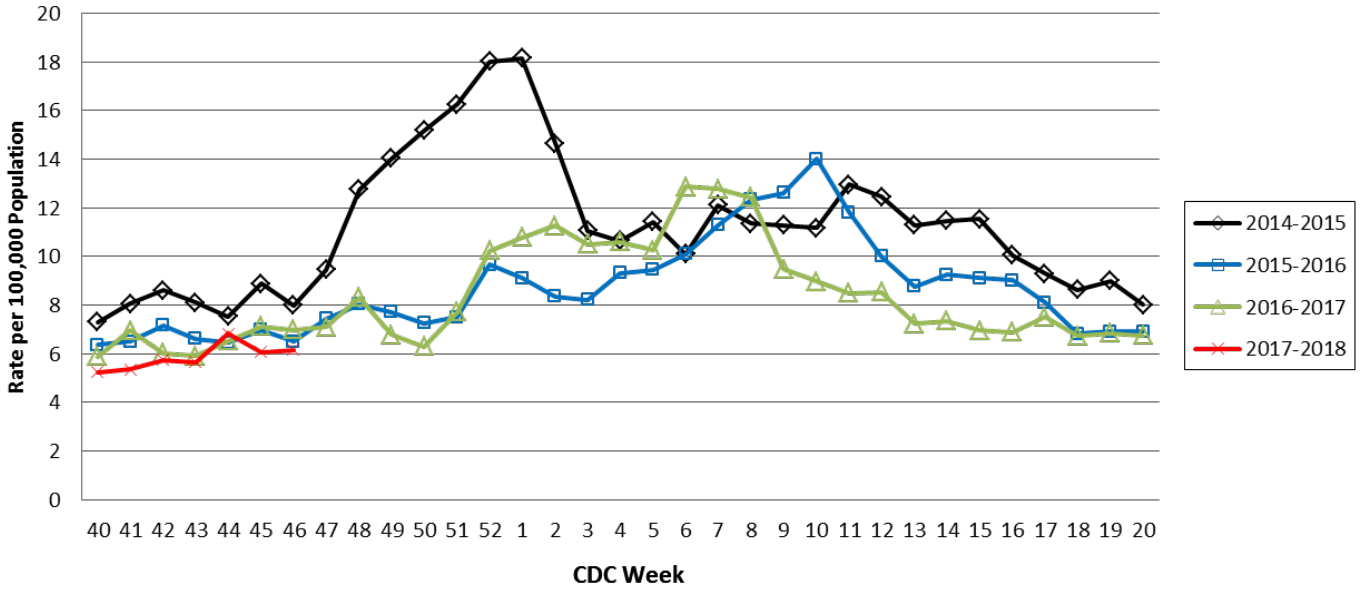


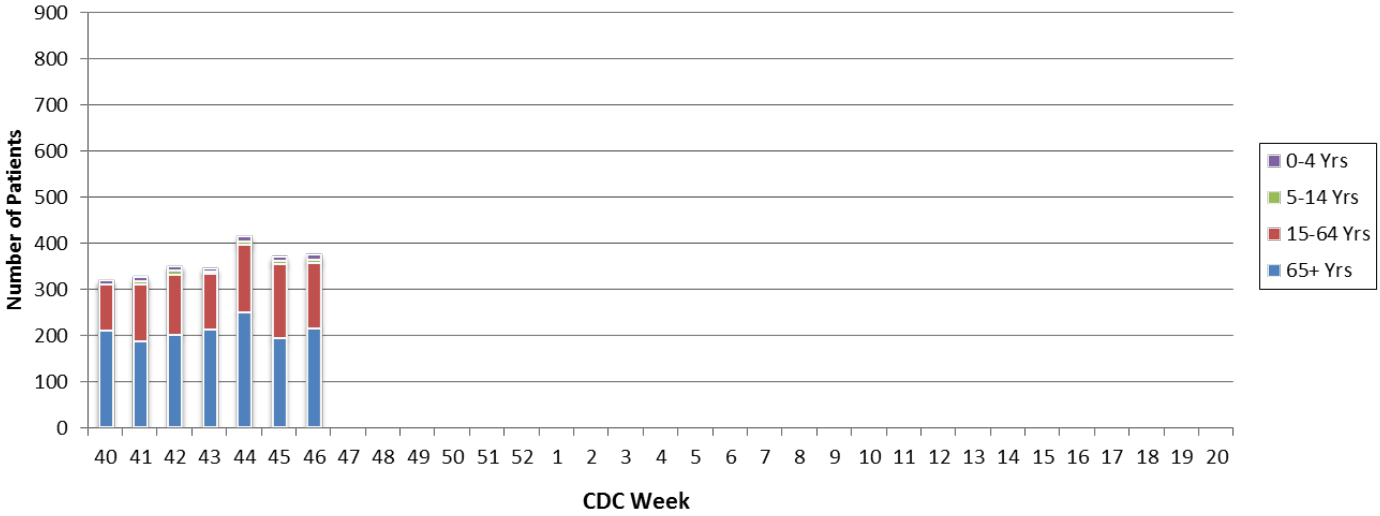
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 10. Weekly Rate of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Missouri Hospitals, 2014-2018 Influenza Seasons



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.
Population data from DHSS Population MICA 2015 (http://health.mo.gov/data/mica/mica/population.php).

Figure 11. Number of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Participating Missouri Hospitals, by Age Group, Week 46, 2017-2018 Influenza Season



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.

Additional Influenza Data Sources:

Centers for Disease Control and Prevention: National Influenza Surveillance (FluView):
http://www.cdc.gov/flu/weekly/fluactivitysurv.htm

The National Respiratory and Enteric Virus Surveillance System (NREVSS):
https://www.cdc.gov/surveillance/nrevss/

World Health Organization: International Influenza Surveillance:
http://www.who.int/influenza/surveillance_monitoring/en/

Missouri Weekly Influenza Surveillance Report
2017-2018 Influenza Season[1]

Week 47: November 19 – 25, 2017

All data are preliminary and may change as more reports are received.

Summary:

- The estimated influenza activity in Missouri increased to Local[2].

- During Week 47, a total of 258 laboratory-positive[3] influenza cases (153 influenza A and 105 influenza B) were reported. A season-to-date total of 1,545 laboratory-positive influenza cases (1,039 influenza A, 487 influenza B, and 19 untyped) have been reported in Missouri as of Week 47. The influenza type for reported season-to date cases includes 67% influenza A, 32% influenza B, and 1% untyped. Seven laboratory-positive cases of influenza (two influenza A (H3) and five influenza B (Yamagata)) were reported by the Missouri State Public Health Laboratory (MSPHL) during Week 47.

- Influenza-like illness (ILI) activity was above baseline for the Missouri Outpatient ILI Surveillance Network (ILINet) and below baseline for the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 2.42% (Figure 5) and 1.86% (Figure 7) through ILINet and ESSENCE respectively.[4] The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution. The percentage of respiratory specimens testing positive for influenza in Missouri laboratories reporting to the National Respiratory and Enteric Virus Surveillance System (NREVSS) was low during Week 47 (Figure 6).

- One influenza-associated death has been reported in Missouri as of Week 47.[5] During Week 46, 46 deaths involving Pneumonia and Influenza (P&I) were reported to the Bureau of Vital Records, resulting in a season-to-date total of 292 P&I associated deaths in Missouri.[6]

- One outbreak of influenza A (H3) and no influenza or ILI-associated school closures have been reported in Missouri as of Week 47.

- Influenza activity increased in the U.S. during Week 46. National influenza surveillance information is prepared by CDC and is included in the weekly FluView report, which is available online at http://www.cdc.gov/flu/weekly/fluactivitysurv.htm.

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[1]The 2017-2018 influenza season begins CDC Week 40 (week ending October 7, 2017) and ends CDC Week 39 (week ending September 29, 2018).

[2]Local is defined as: Outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in a single region of the state.

[3]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

[4]Influenza-like illness (ILI) is defined by ILINet as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza. ILI is defined by ESSENCE as Emergency Department chief complaints for Influenza or (FeverPlus and (Cough or SoreThroat) and not NonILIFevers).

[5]All influenza-associated deaths became reportable in Missouri in 2016.

[6]The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

Surveillance Data:

Interactive Maps

The jurisdiction-specific influenza data are provided though interactive maps available at http://arcg.is/0ubCvq. *Click on the jurisdiction to view the influenza data specific to that jurisdiction.*

- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, CDC Week 47**
- **Reported Week-specific Rate per 100,000 Population, CDC Week 47**
- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, Season-to-Date**
- **Reported Rate per 100,000 Population, Season-to-Date**

Data Figures

Figure 1. Number of Laboratory-positive[†] Influenza Cases by Influenza Type, Missouri, CDC Week 47 (November 19 – 25, 2017)[*]

Influenza Type	Week 45	Week 46	Week 47	2017-2018* Season-to-Date
Influenza A	186	179	153	1,039
Influenza B	98	117	105	487
Influenza Unknown Or Untyped	2	8	0	19
Total	286	304	258	1,545

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 2. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 47 (November 19 – 25, 2017)[*‡]

Age Group	Week 47 Cases	Week 47 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
00-04	42	11.22	286	76.40
05-24	90	5.61	512	31.91
25-49	47	2.46	303	15.83
50-64	31	2.51	188	15.21
65+	48	5.03	256	26.81
Total	258	4.24	1,545	25.40

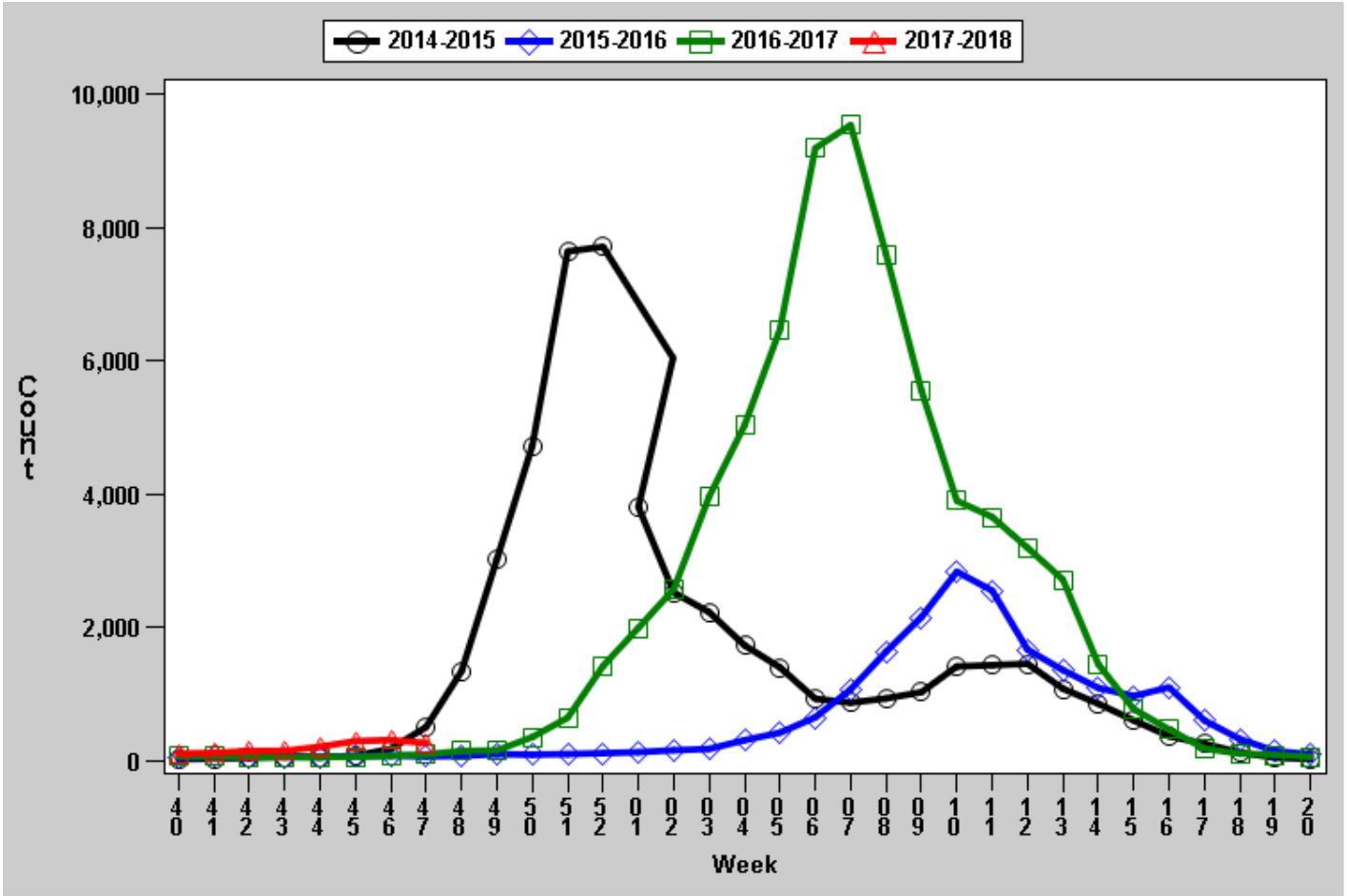
[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 3. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Region, Missouri, CDC Week 47 (November 19 – 25, 2017)[*‡]

Region	Week 47 Cases	Week 47 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
Central	16	2.36	142	20.97
Eastern	64	2.82	325	14.34
Northwest	24	1.50	318	19.91
Southeast	34	7.21	390	82.68
Southwest	120	11.20	370	34.54
Total	258	4.24	1,545	25.40

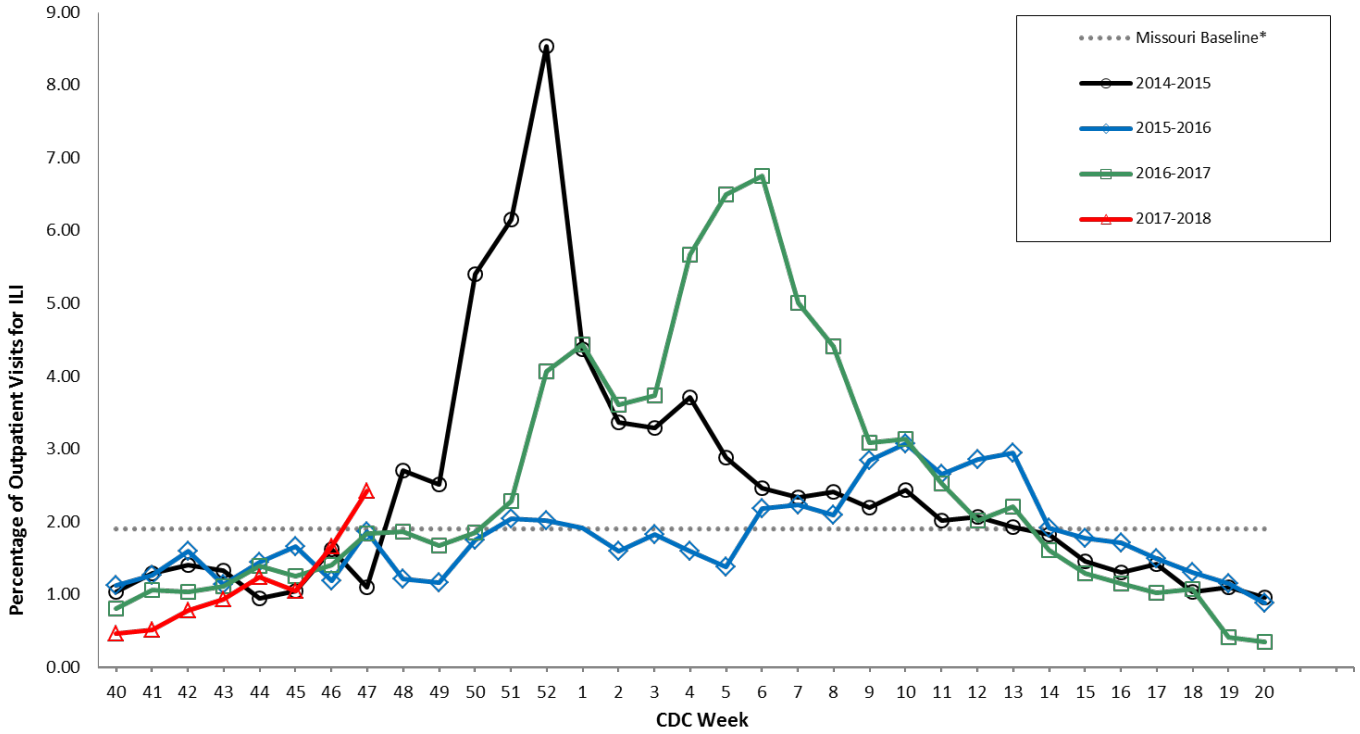
[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 4. Number of Laboratory-positive[†] Influenza Cases by CDC Week, Missouri, 2014-2018[*]



[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. Week 53, 2014-2015 flu season has 3,082 reported confirmed cases. Data Source: Missouri Health Information Surveillance System (WebSurv).

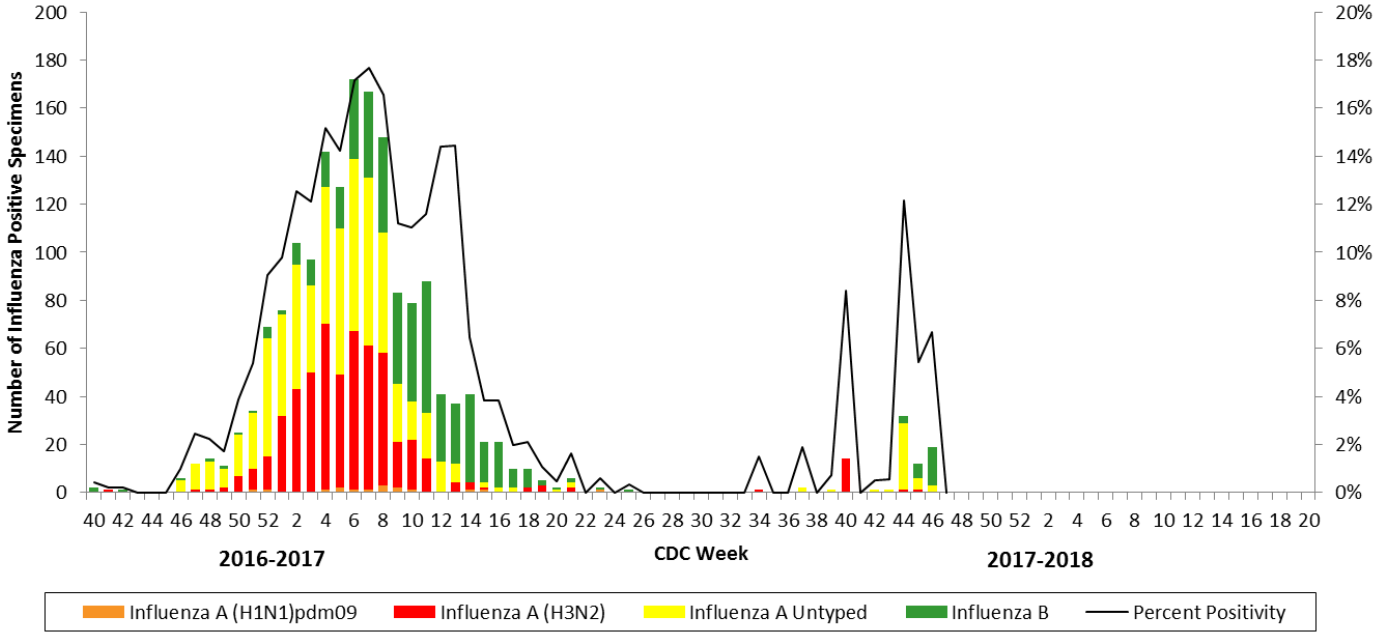
Figure 5. Percentage of Outpatient Visits for Influenza-like Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2014-2018*†



*The ILINet Region 7 (MO, IA, KS, NE) baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons, plus two standard deviations. A non-influenza week is defined as periods of two or more consecutive weeks in which each week accounted for less than 2% of the season's total number of specimens that tested positive for influenza.
Data Source: U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Centers for Disease Control and Prevention (CDC).

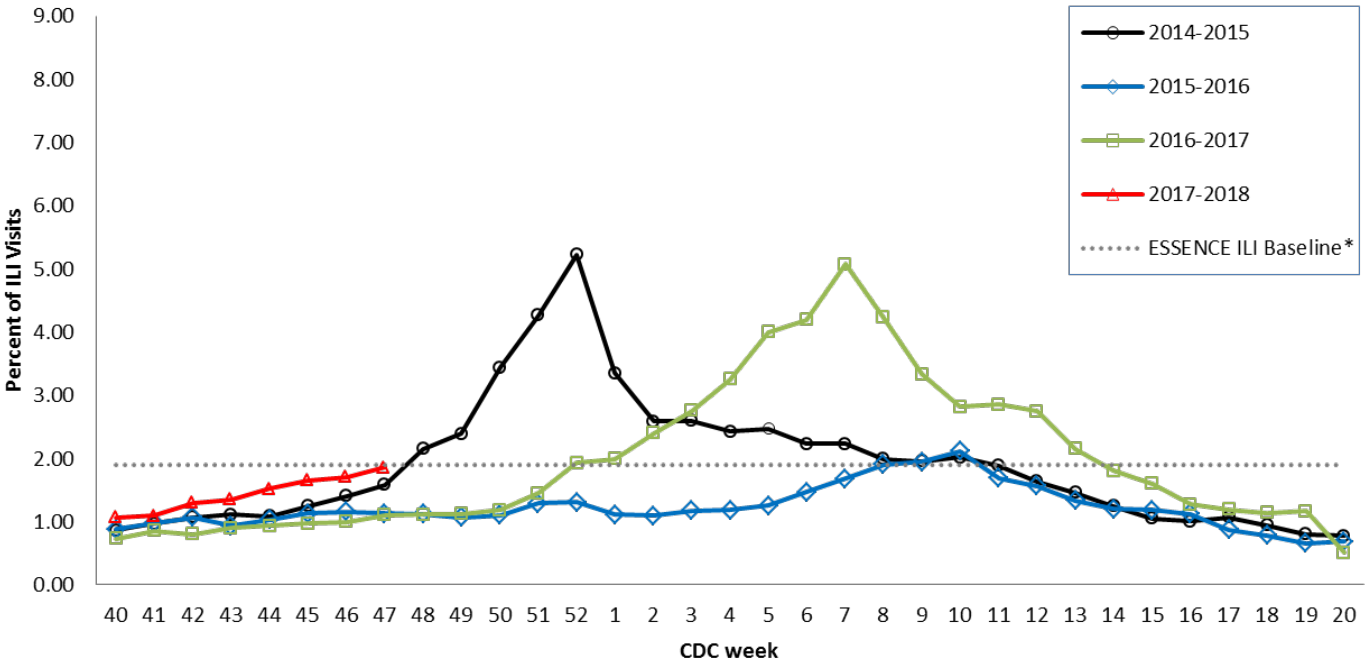
†2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of outpatient visits for ILI during Week 53 was 7.63.

Figure 6. Season-to-Date PCR (+) Tests for Influenza in Missouri



Data Source: National Respiratory and Enteric Virus Surveillance System (NREVSS), Centers for Disease Control and Prevention (CDC).
2016-2017 season-to-date through the week ending May 19, 2018 (Week 20).

Figure 7. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, 2014-2018 Influenza Seasons*†‡



*The ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2014-16) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
†The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of visits for ILI in ESSENCE participating hospitals during Week 53 was 4.38%.
‡The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

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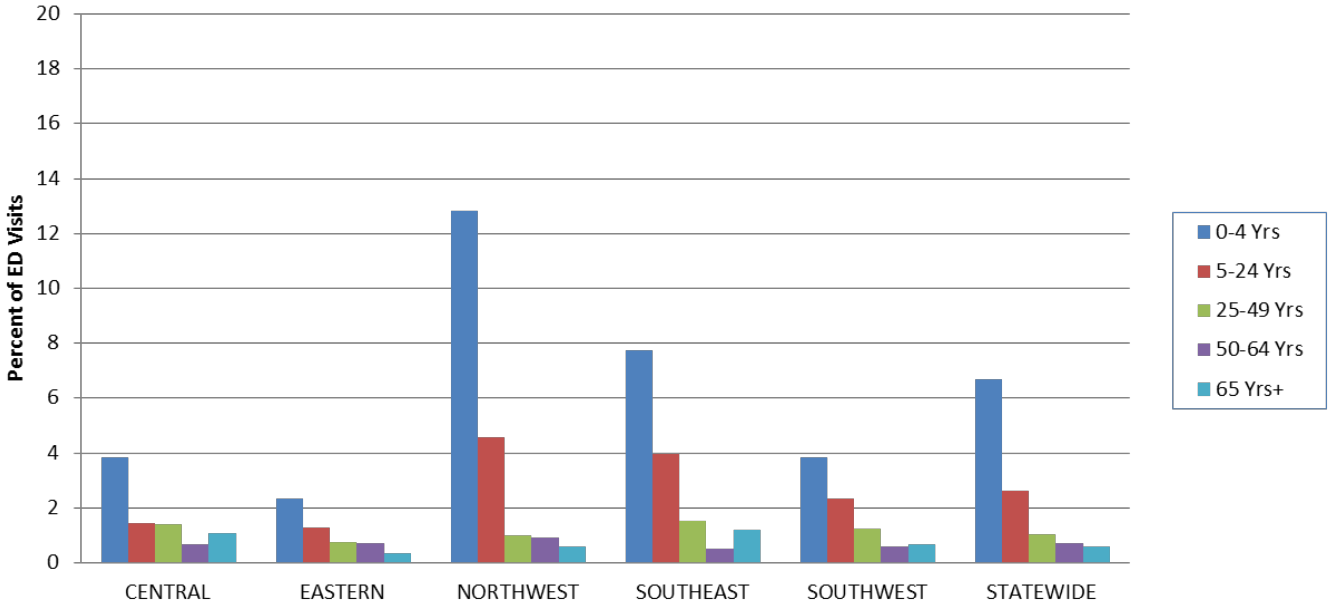

Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
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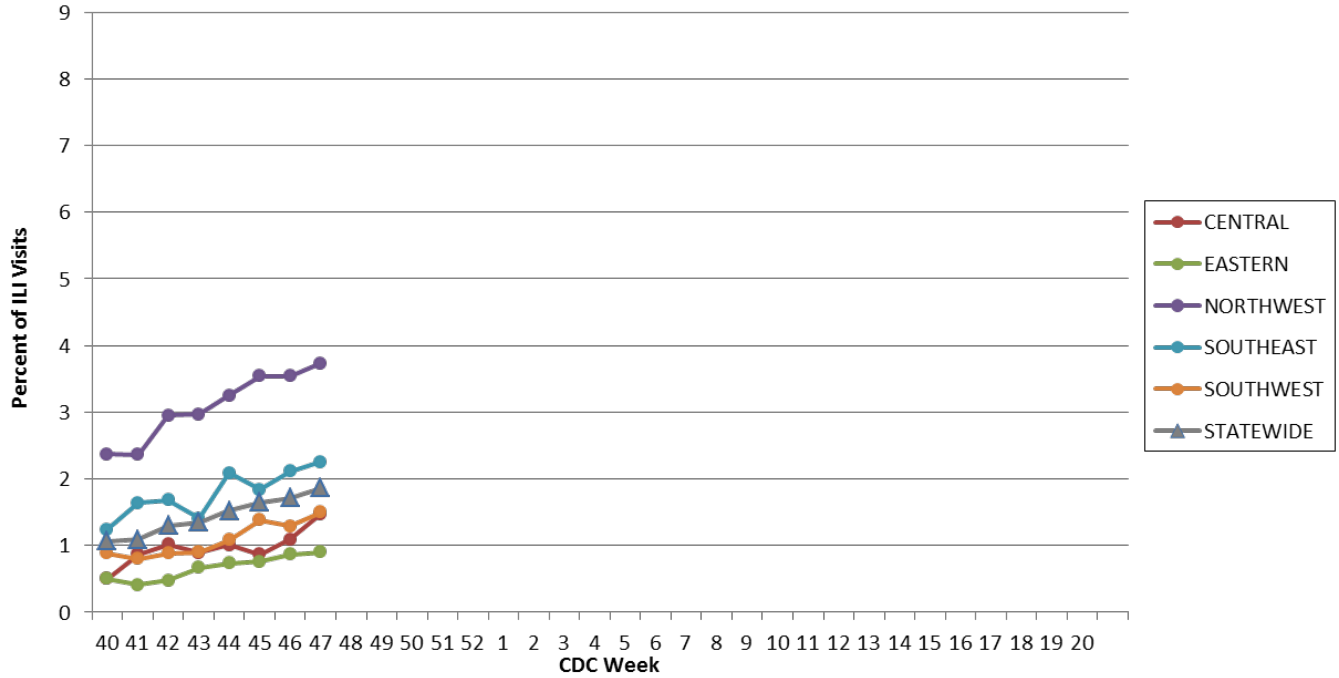
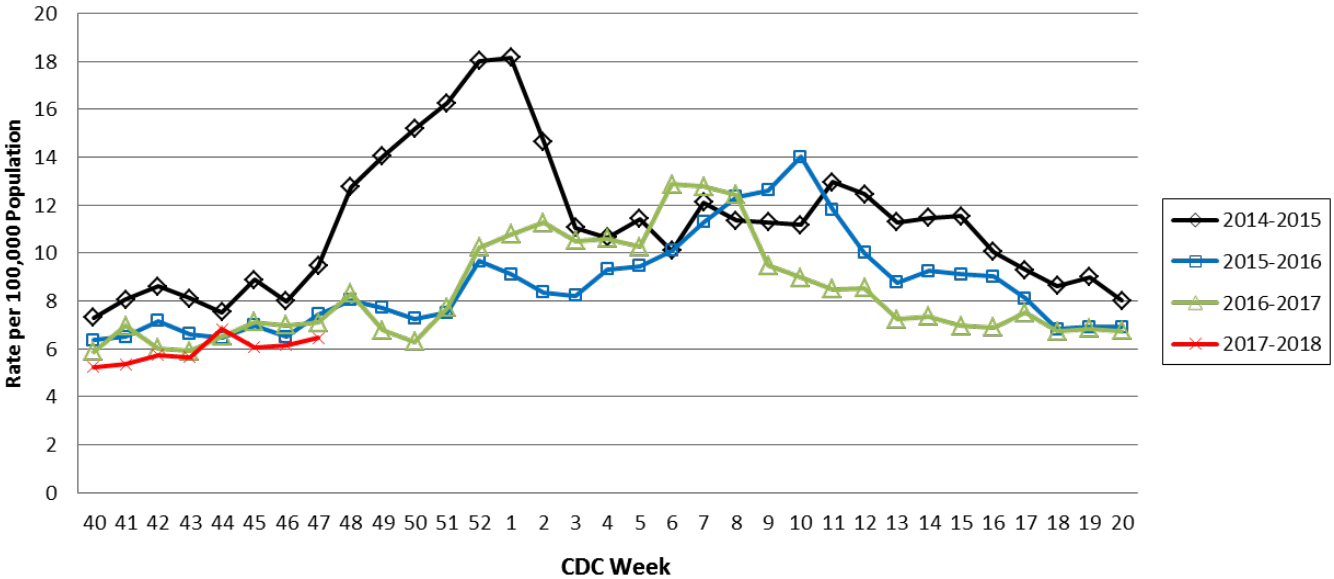
Figure 9. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Region and Statewide, 2017-2018 Influenza Season*



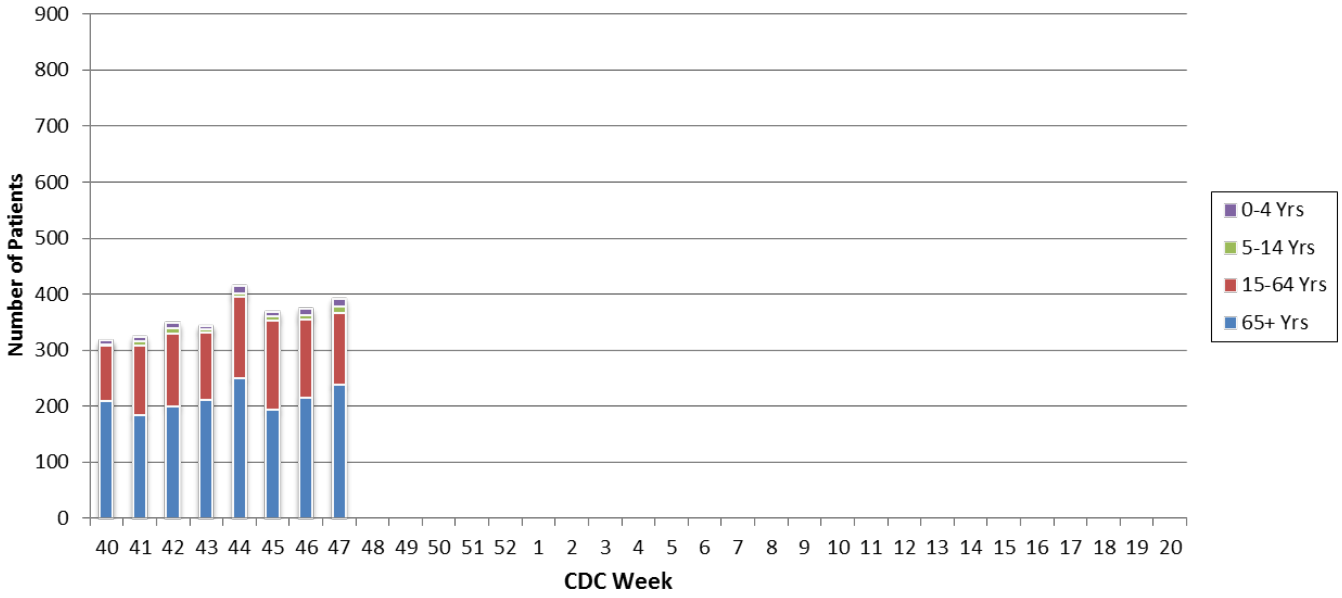
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 10. Weekly Rate of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Missouri Hospitals, 2014-2018 Influenza Seasons



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.
Population data from DHSS Population MICA 2015 (http://health.mo.gov/data/mica/mica/population.php).

Figure 11. Number of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Participating Missouri Hospitals, by Age Group, Week 47, 2017-2018 Influenza Season



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.

Additional Influenza Data Sources:

Centers for Disease Control and Prevention: National Influenza Surveillance (FluView):
http://www.cdc.gov/flu/weekly/fluactivitysurv.htm

The National Respiratory and Enteric Virus Surveillance System (NREVSS):
https://www.cdc.gov/surveillance/nrevss/

World Health Organization: International Influenza Surveillance:
http://www.who.int/influenza/surveillance_monitoring/en/

Missouri Weekly Influenza Surveillance Report
2017-2018 Influenza Season[1]

Week 48: November 26 – December 2, 2017

All data are preliminary and may change as more reports are received.

Summary:

- The estimated influenza activity in Missouri increased to Regional[2].

- During Week 48, a total of 531 laboratory-positive[3] influenza cases (378 influenza A, 148 influenza B, and five untyped) were reported. A season-to-date total of 2,447 laboratory-positive influenza cases (1,663 influenza A, 753 influenza B, and 31 untyped) have been reported in Missouri as of Week 48. The influenza type for reported season-to date cases includes 68% influenza A, 31% influenza B, and 1% untyped. Five laboratory-positive cases of influenza (three influenza A (H3) and two influenza B (Yamagata)) were reported by the Missouri State Public Health Laboratory (MSPHL) during Week 48.

- Influenza-like illness (ILI) activity was above baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 2.36% (Figure 5) and 2.06% (Figure 7) through ILINet and ESSENCE respectively.[4] The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution. The percentage of respiratory specimens testing positive for influenza in Missouri laboratories reporting to the National Respiratory and Enteric Virus Surveillance System (NREVSS) increased during Week 48 (Figure 6).

- One influenza-associated death has been reported in Missouri as of Week 48.[5] During Week 47, 30 deaths involving Pneumonia and Influenza (P&I) were reported to the Bureau of Vital Records, resulting in a season-to-date total of 322 P&I associated deaths in Missouri.[6]

- Four outbreaks of influenza A have been reported in long-term care facilities and no influenza or ILI-associated school closures have been reported in Missouri as of Week 48.

- Influenza activity increased in the U.S. during Week 47. National influenza surveillance information is prepared by CDC and is included in the weekly FluView report, which is available online at http://www.cdc.gov/flu/weekly/fluactivitysurv.htm.

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[1]The 2017-2018 influenza season begins CDC Week 40 (week ending October 7, 2017) and ends CDC Week 39 (week ending September 29, 2018).

[2]Regional is defined as: Outbreaks of influenza or increases in ILI and recent laboratory confirmed influenza in at least two but less than half the regions of the state with recent laboratory evidence of influenza in those regions.

[3]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

[4]Influenza-like illness (ILI) is defined by ILINet as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza. ILI is defined by ESSENCE as Emergency Department chief complaints for Influenza or (FeverPlus and (Cough or SoreThroat) and not NonILIFevers).

[5]All influenza-associated deaths became reportable in Missouri in 2016.

[6]The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

Surveillance Data:

Interactive Maps

The jurisdiction-specific influenza data are provided though interactive maps available at http://arcg.is/1ye901. *Click on the jurisdiction to view the influenza data specific to that jurisdiction.*

- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, CDC Week 48**
- **Reported Week-specific Rate per 100,000 Population, CDC Week 48**
- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, Season-to-Date**
- **Reported Rate per 100,000 Population, Season-to-Date**

Data Figures

Figure 1. Number of Laboratory-positive[†] Influenza Cases by Influenza Type, Missouri, CDC Week 48 (November 26 – December 2, 2017)[*]

Influenza Type	Week 46	Week 47	Week 48	2017-2018* Season-to-Date
Influenza A	230	269	378	1,663
Influenza B	137	172	148	753
Influenza Unknown Or Untyped	12	0	5	31
Total	379	441	531	2,447

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 2. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 48 (November 26 – December 2, 2017)[*‡]

Age Group	Week 48 Cases	Week 48 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
00-04	80	21.37	417	111.39
05-24	182	11.34	834	51.98
25-49	112	5.85	498	26.03
50-64	60	4.85	304	24.59
65+	97	10.16	394	41.26
Total	531	8.73	2,447	40.22

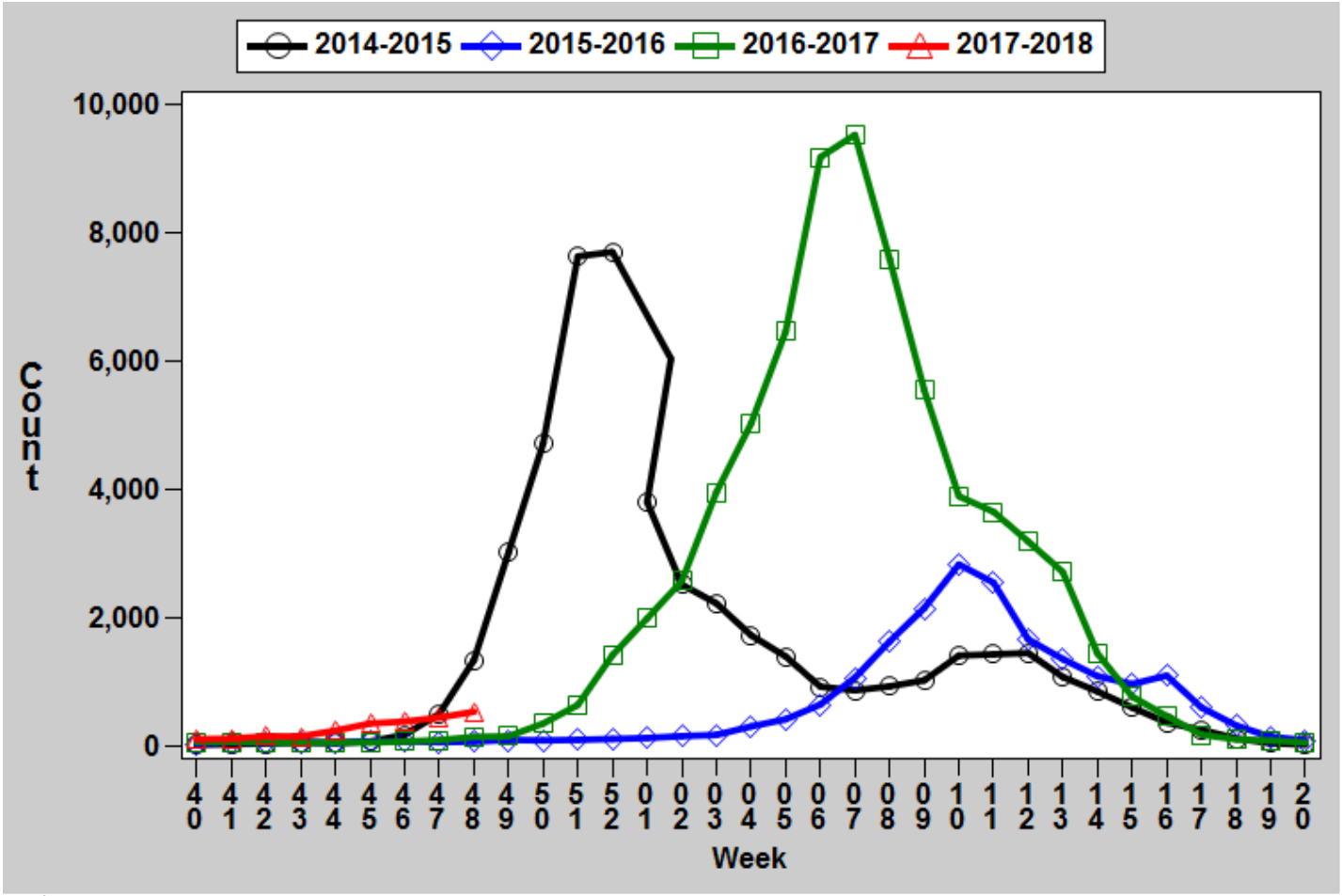
[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 3. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Region, Missouri, CDC Week 48 (November 26 – December 2, 2017)[*‡]

Region	Week 48 Cases	Week 48 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
Central	56	8.27	224	33.09
Eastern	135	5.96	554	24.45
Northwest	100	6.26	535	33.49
Southeast	93	19.72	546	115.75
Southwest	147	13.72	588	54.89
Total	531	8.73	2,447	40.22

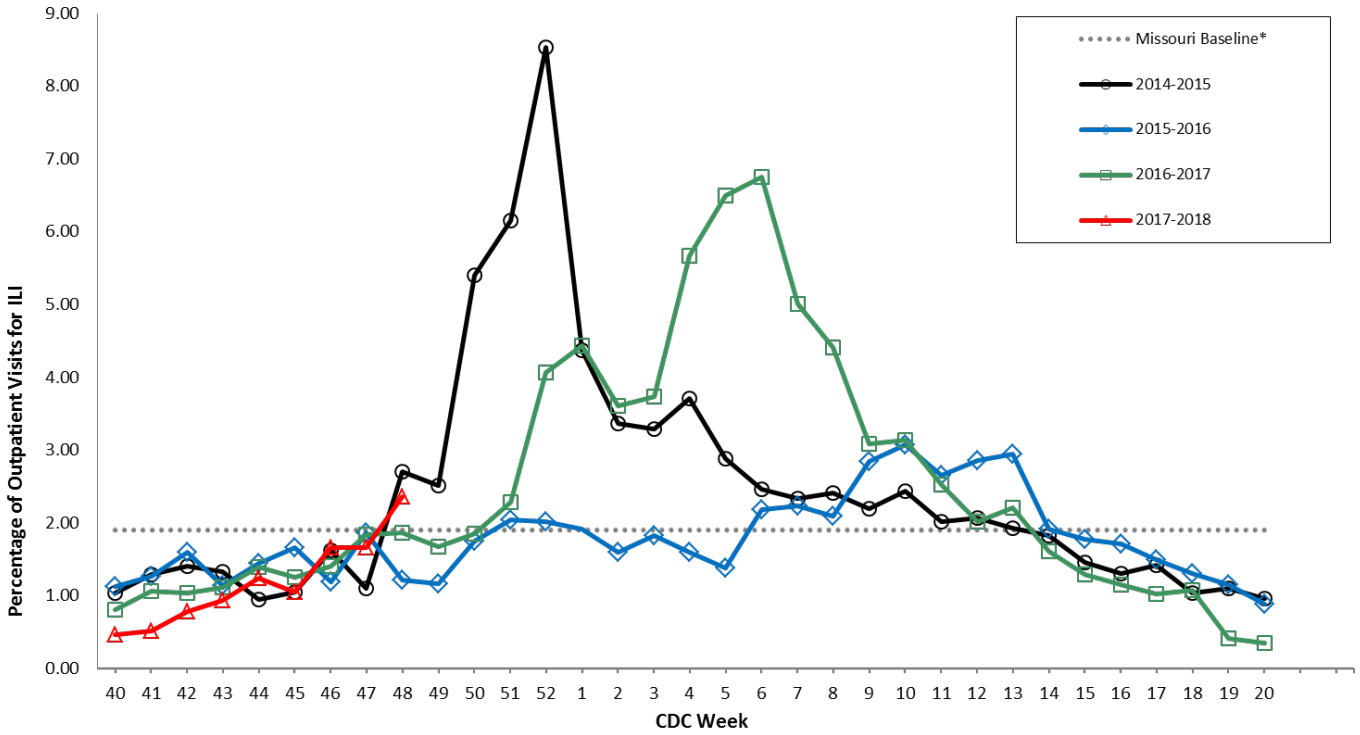
[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 4. Number of Laboratory-positive[†] Influenza Cases by CDC Week, Missouri, 2014-2018[*]



[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. Week 53, 2014-2015 flu season has 3,082 reported confirmed cases. Data Source: Missouri Health Information Surveillance System (WebSurv).

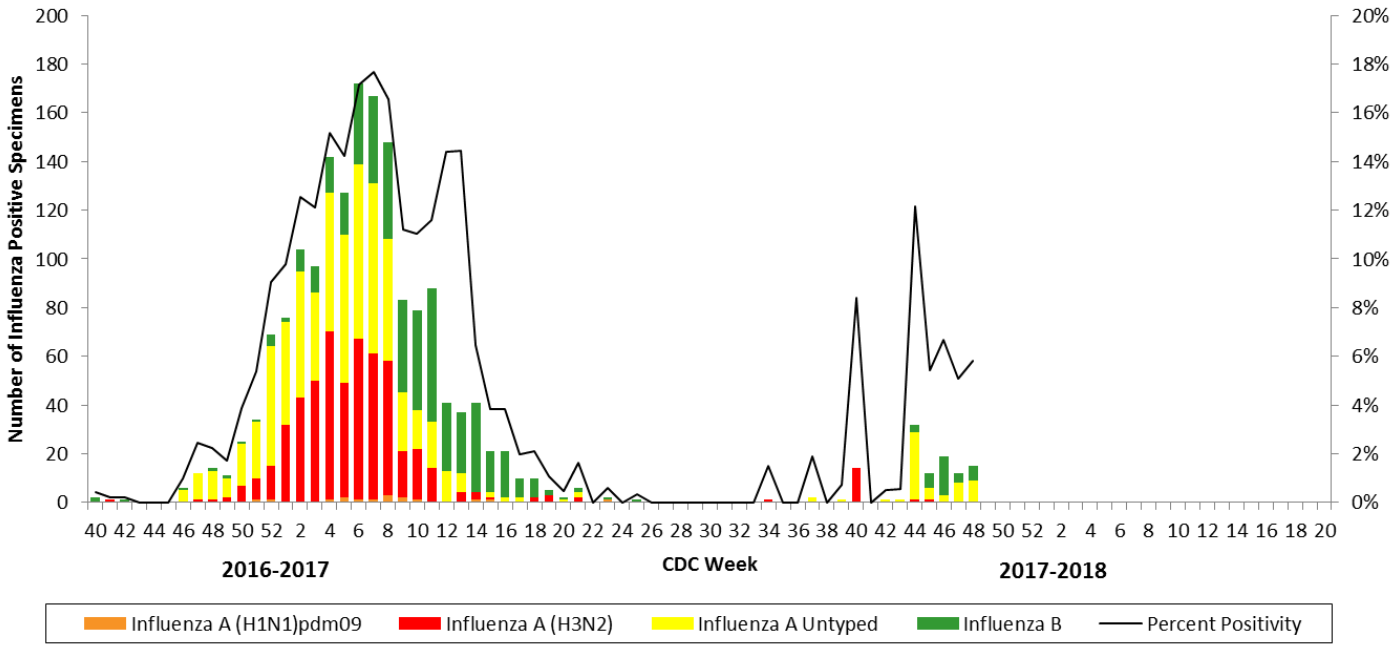
Figure 5. Percentage of Outpatient Visits for Influenza-like Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2014-2018*†



*The ILINet Region 7 (MO, IA, KS, NE) baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons, plus two standard deviations. A non-influenza week is defined as periods of two or more consecutive weeks in which each week accounted for less than 2% of the season's total number of specimens that tested positive for influenza.
Data Source: U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Centers for Disease Control and Prevention (CDC).

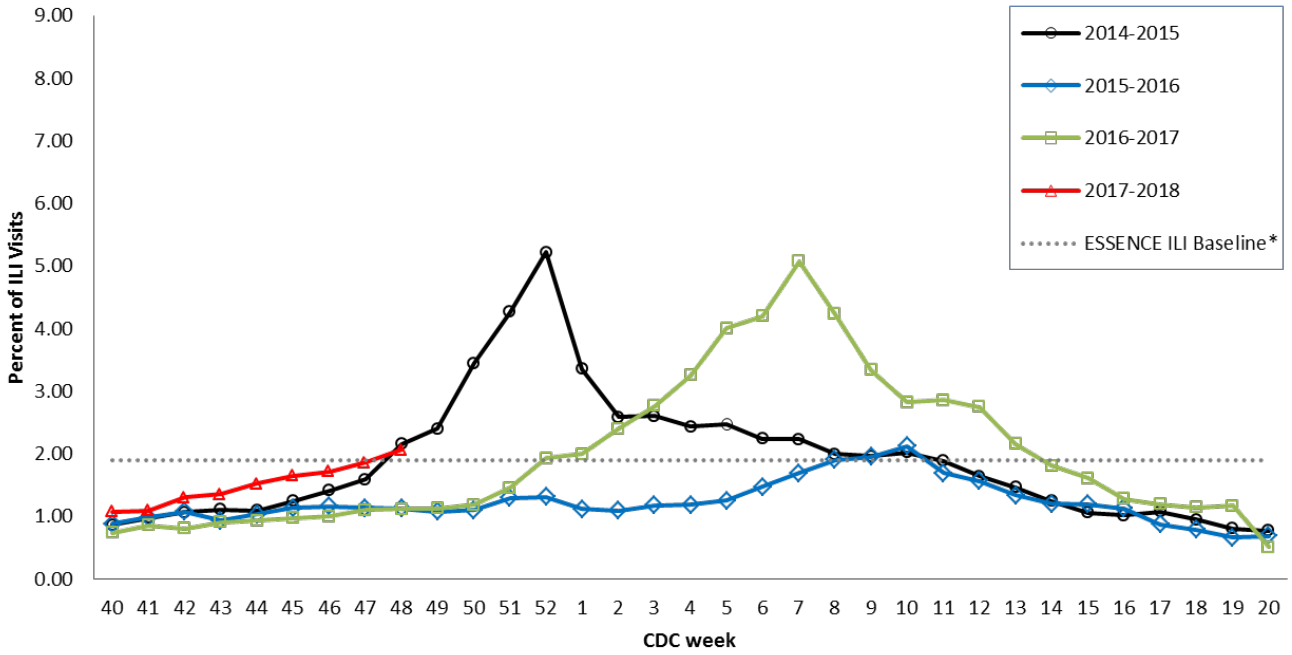
†2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of outpatient visits for ILI during Week 53 was 7.63.

Figure 6. Season-to-Date PCR (+) Tests for Influenza in Missouri



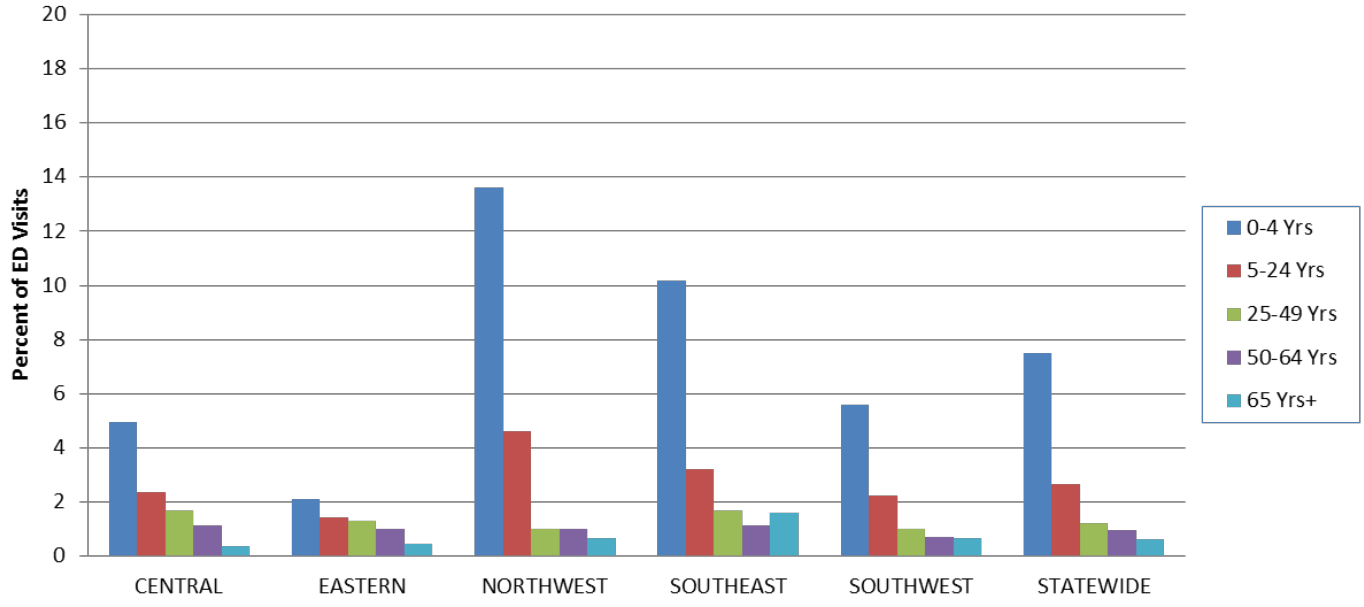
Data Source: National Respiratory and Enteric Virus Surveillance System (NREVSS), Centers for Disease Control and Prevention (CDC).
2016-2017 season-to-date through the week ending May 19, 2018 (Week 20).

Figure 7. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, 2014-2018 Influenza Seasons*†‡



*The ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2014-16) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
†The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of visits for ILI in ESSENCE participating hospitals during Week 53 was 4.38%.
‡The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 8. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Age Group, Region and Statewide, Week 48, 2017*



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
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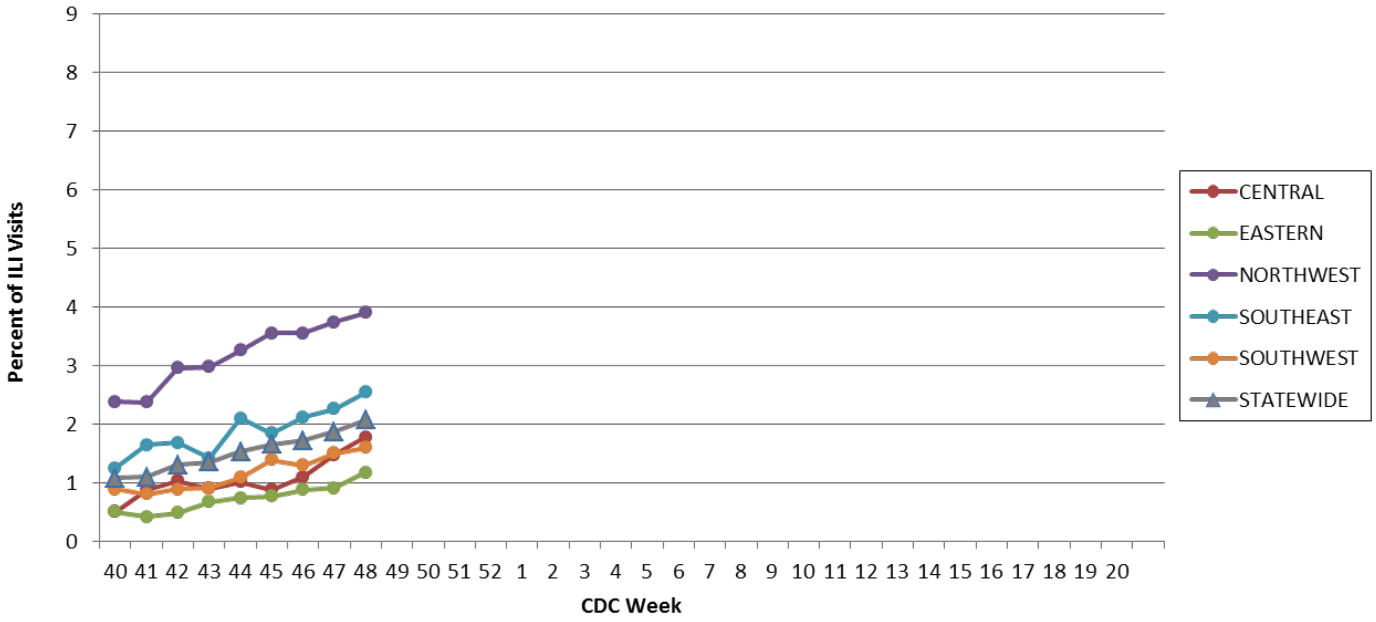
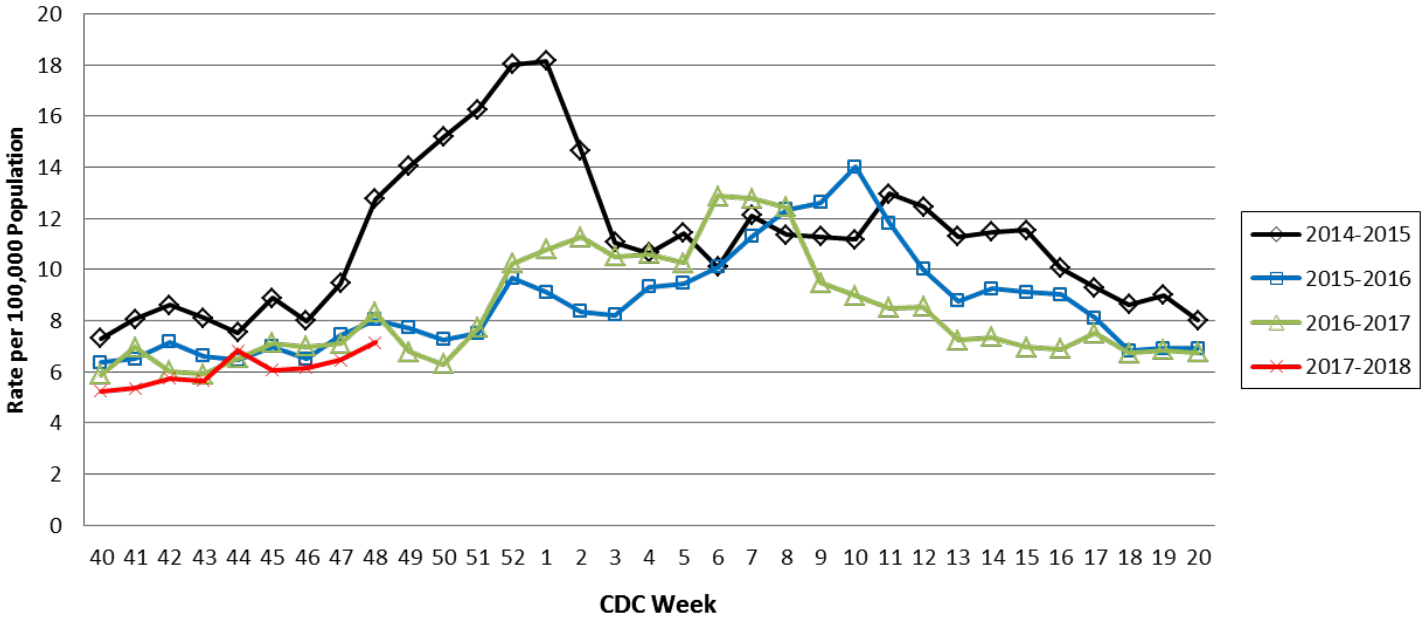


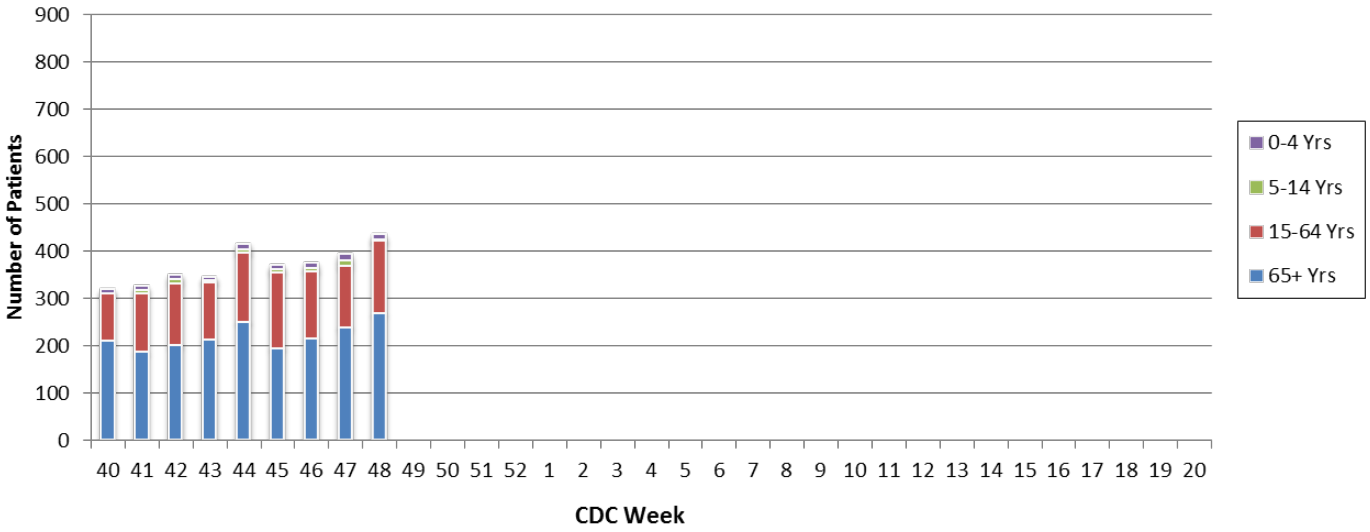
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 10. Weekly Rate of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Missouri Hospitals, 2014-2018 Influenza Seasons



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.
Population data from DHSS Population MICA 2015 (http://health.mo.gov/data/mica/mica/population.php).

Figure 11. Number of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Participating Missouri Hospitals, by Age Group, Week 48, 2017-2018 Influenza Season



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.

Additional Influenza Data Sources:

Centers for Disease Control and Prevention: National Influenza Surveillance (FluView): http://www.cdc.gov/flu/weekly/fluactivitysurv.htm

The National Respiratory and Enteric Virus Surveillance System (NREVSS): https://www.cdc.gov/surveillance/nrevss/

World Health Organization: International Influenza Surveillance: http://www.who.int/influenza/surveillance_monitoring/en/

Missouri Weekly Influenza Surveillance Report
2017-2018 Influenza Season[1]

Week 49: December 3 – 9, 2017

All data are preliminary and may change as more reports are received.

Summary:

- The estimated influenza activity in Missouri increased to Widespread[2].

- During Week 49, a total of 771 laboratory-positive[3] influenza cases (614 influenza A, 154 influenza B, and three untyped) were reported. A season-to-date total of 3,558 laboratory-positive influenza cases (2,540 influenza A, 977 influenza B, and 41 untyped) have been reported in Missouri as of Week 49. The influenza type for reported season-to date cases includes 71% influenza A, 28% influenza B, and 1% untyped. Twelve laboratory-positive cases of influenza (eight influenza A (H3) and four influenza B (Yamagata)) were reported by the Missouri State Public Health Laboratory (MSPHL) during Week 49.

- Influenza-like illness (ILI) activity was above baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 2.52% (Figure 5) and 2.30% (Figure 7) through ILINet and ESSENCE respectively.[4] The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution. The percentage of respiratory specimens testing positive for influenza in Missouri laboratories reporting to the National Respiratory and Enteric Virus Surveillance System (NREVSS) increased during Week 49 (Figure 6).

- One influenza-associated death has been reported in Missouri as of Week 49.[5] During Week 48, 48 deaths involving Pneumonia and Influenza (P&I) were reported to the Bureau of Vital Records, resulting in a season-to-date total of 370 P&I associated deaths in Missouri.[6]

- Six outbreaks of influenza have been reported in long-term care facilities and no influenza or ILI-associated school closures have been reported in Missouri as of Week 49.

- Influenza activity increased in the U.S. during Week 48. National influenza surveillance information is prepared by CDC and is included in the weekly FluView report, which is available online at http://www.cdc.gov/flu/weekly/fluactivitysurv.htm.

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[1]The 2017-2018 influenza season begins CDC Week 40 (week ending October 7, 2017) and ends CDC Week 39 (week ending September 29, 2018).

[2]Widespread is defined as: Outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in at least half the regions of the state with recent laboratory evidence of influenza in the state.

[3]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

[4]Influenza-like illness (ILI) is defined by ILINet as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza. ILI is defined by ESSENCE as Emergency Department chief complaints for Influenza or (FeverPlus and (Cough or SoreThroat) and not NonILIFevers).

[5]All influenza-associated deaths became reportable in Missouri in 2016.

[6]The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

Surveillance Data:

Interactive Maps

The jurisdiction-specific influenza data are provided though interactive maps available at http://arcg.is/0jrLm4. *Click on the jurisdiction to view the influenza data specific to that jurisdiction.*

- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, CDC Week 49**
- **Reported Week-specific Rate per 100,000 Population, CDC Week 49**
- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, Season-to-Date**
- **Reported Rate per 100,000 Population, Season-to-Date**

Data Figures

Figure 1. Number of Laboratory-positive[†] Influenza Cases by Influenza Type, Missouri, CDC Week 49 (December 3 – 9, 2017)[*]

Influenza Type	Week 47	Week 48	Week 49	2017-2018* Season-to-Date
Influenza A	316	563	614	2,540
Influenza B	184	197	154	977
Influenza Unknown Or Untyped	1	7	3	41
Total	501	767	771	3,558

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 2. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 49 (December 3 – 9, 2017)[*‡]

Age Group	Week 49 Cases	Week 49 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
00-04	106	28.31	586	156.53
05-24	258	16.08	1,189	74.10
25-49	158	8.26	731	38.20
50-64	126	10.19	482	38.98
65+	123	12.88	570	59.69
Total	771	12.67	3,558	58.48

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 3. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Region, Missouri, CDC Week 49 (December 3 – 9, 2017)[*‡]

Region	Week 49 Cases	Week 49 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
Central	126	18.61	409	60.41
Eastern	255	11.25	847	37.38
Northwest	156	9.77	807	50.52
Southeast	109	23.11	748	158.58
Southwest	125	11.67	747	69.73
Total	771	12.67	3,558	58.48

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
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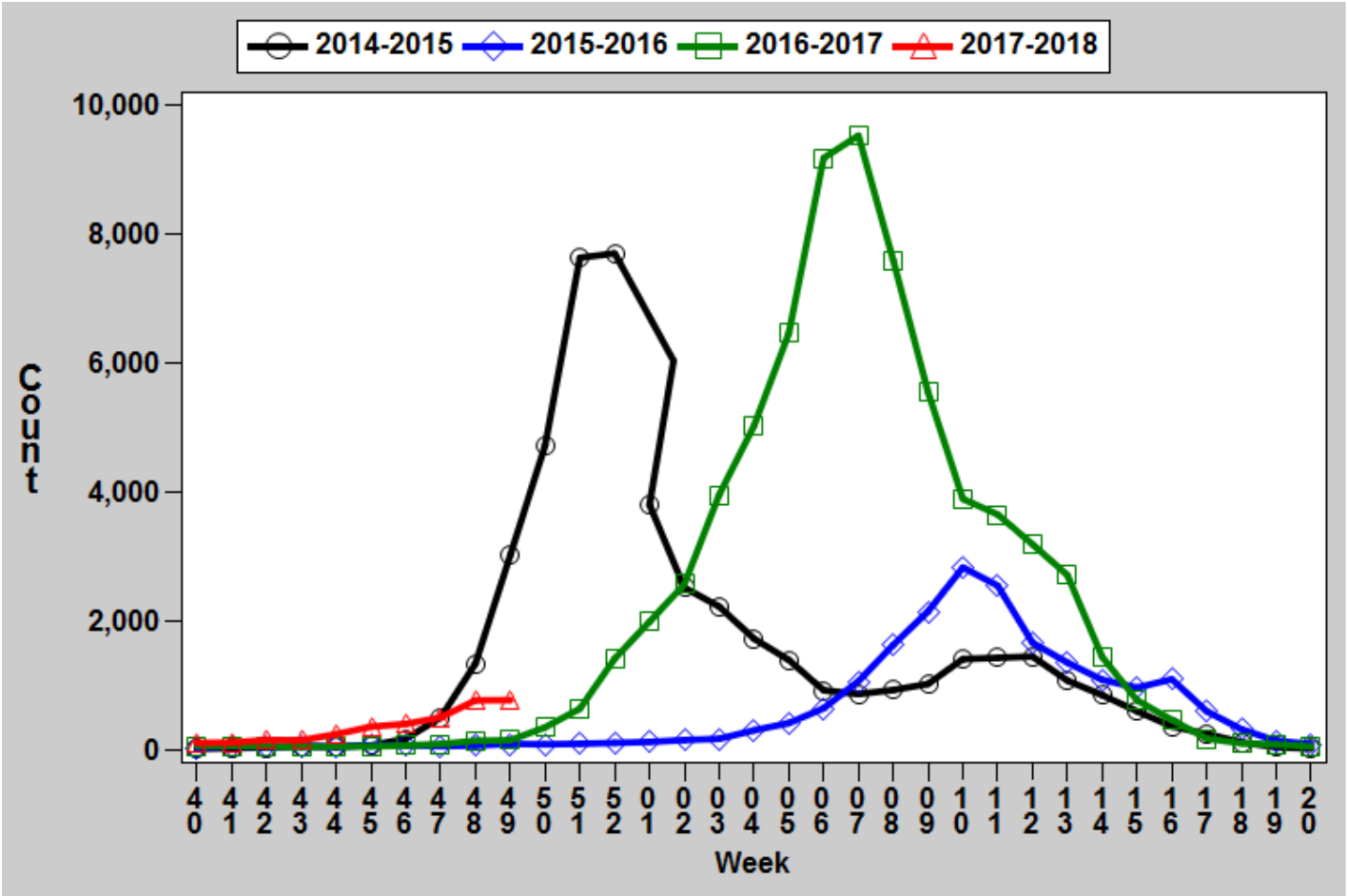

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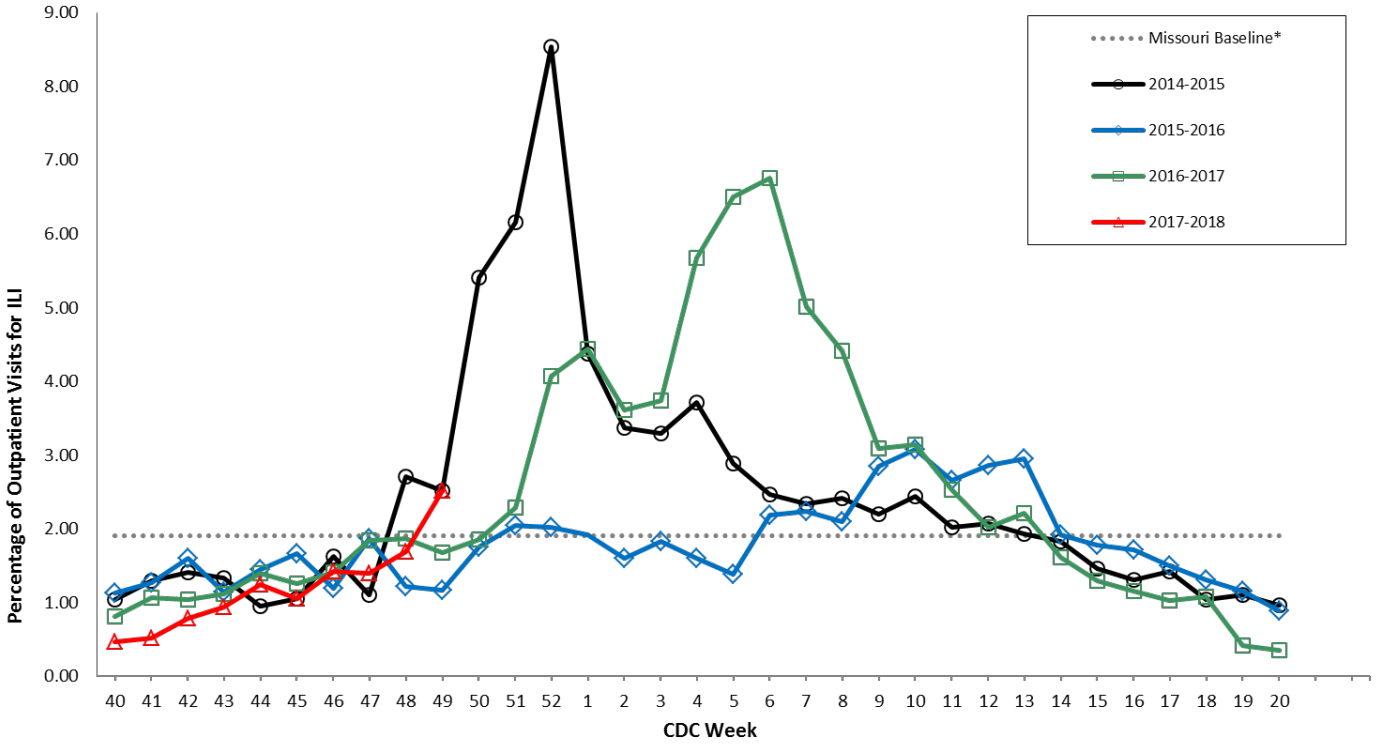
[*]2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. Week 53, 2014-2015 flu season has 3,082 reported confirmed cases. Data Source: Missouri Health Information Surveillance System (WebSurv).

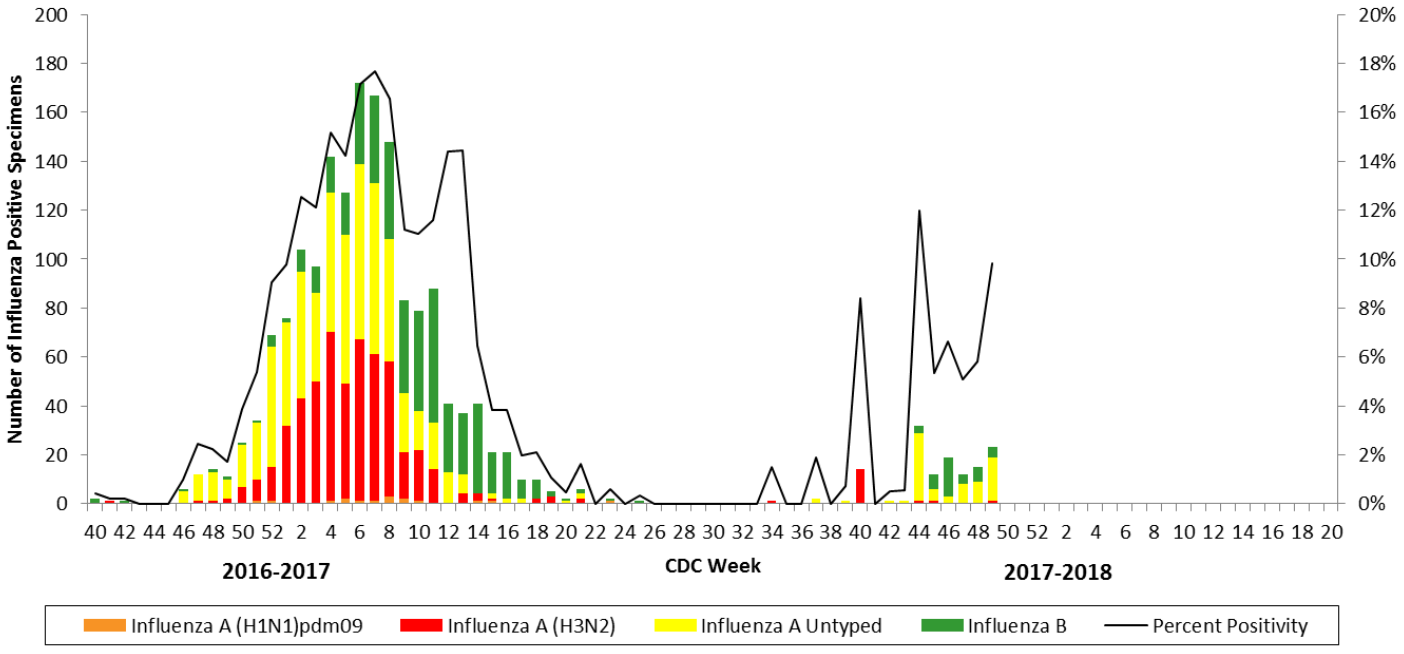
Figure 5. Percentage of Outpatient Visits for Influenza-like Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2014-2018*†



*The ILINet Region 7 (MO, IA, KS, NE) baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons, plus two standard deviations. A non-influenza week is defined as periods of two or more consecutive weeks in which each week accounted for less than 2% of the season's total number of specimens that tested positive for influenza.
Data Source: U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Centers for Disease Control and Prevention (CDC).

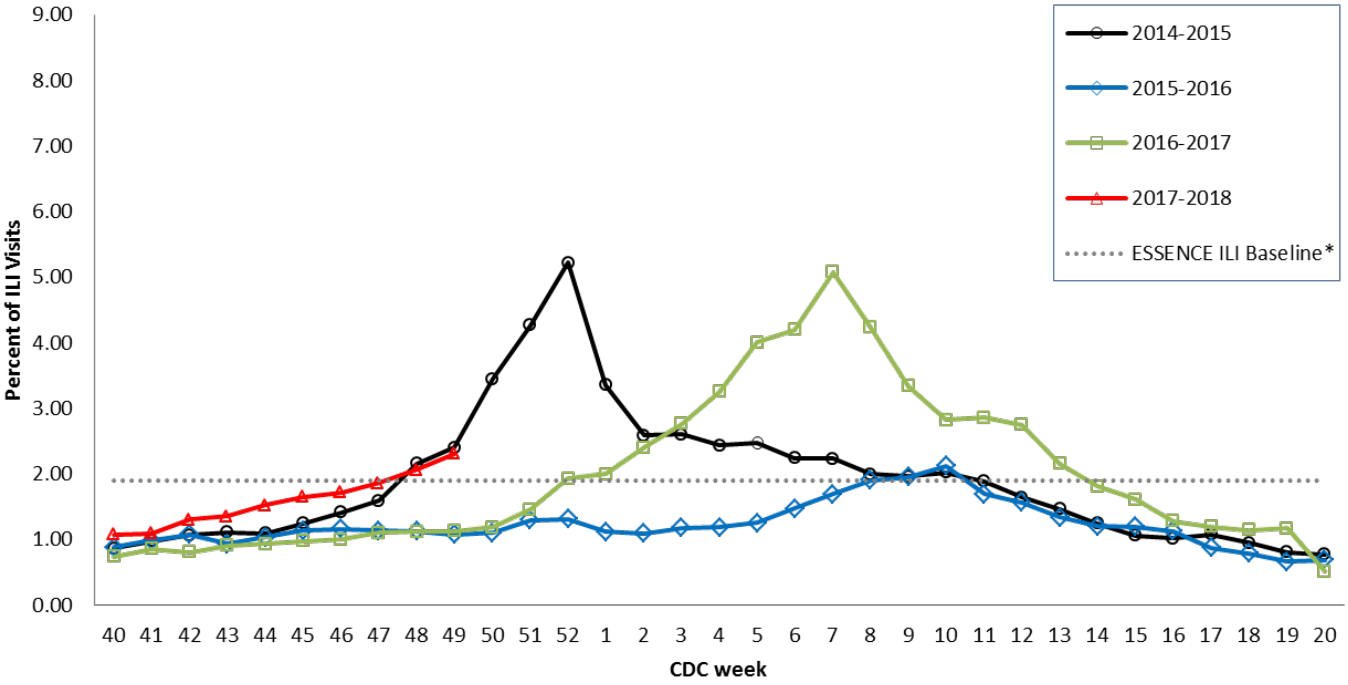
†2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of outpatient visits for ILI during Week 53 was 7.63.

Figure 6. Season-to-Date PCR (+) Tests for Influenza in Missouri



Data Source: National Respiratory and Enteric Virus Surveillance System (NREVSS), Centers for Disease Control and Prevention (CDC).
2016-2017 season-to-date through the week ending May 19, 2018 (Week 20).

Figure 7. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, 2014-2018 Influenza Seasons*†‡



*The ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2014-16) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
†The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of visits for ILI in ESSENCE participating hospitals during Week 53 was 4.38%.
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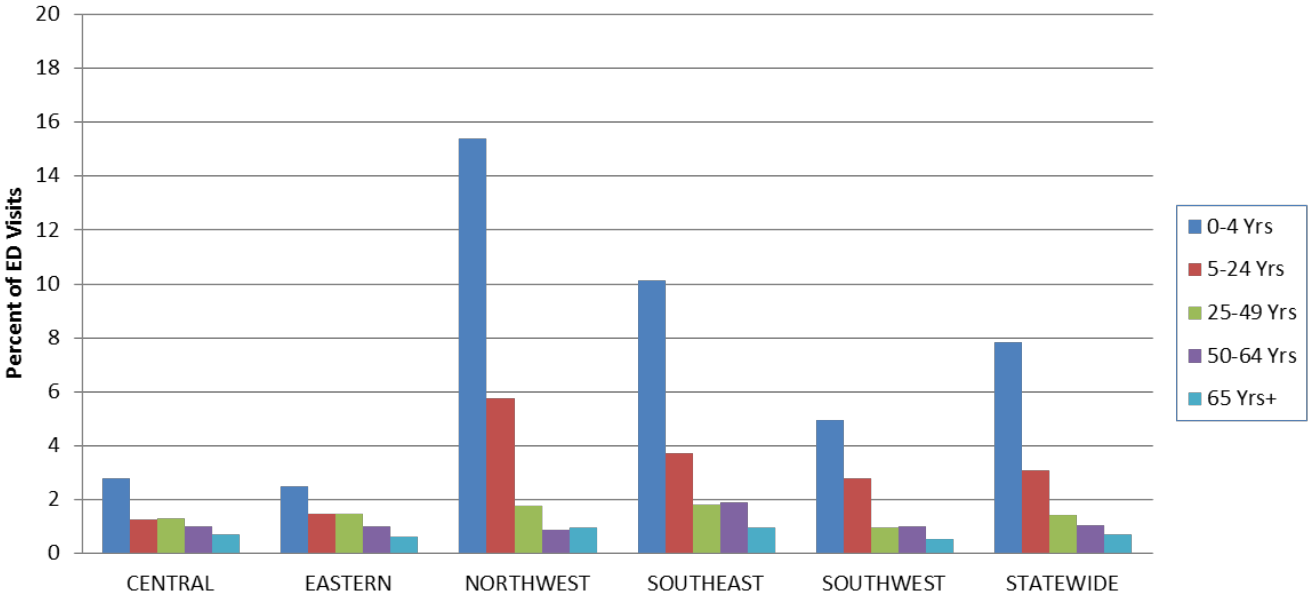

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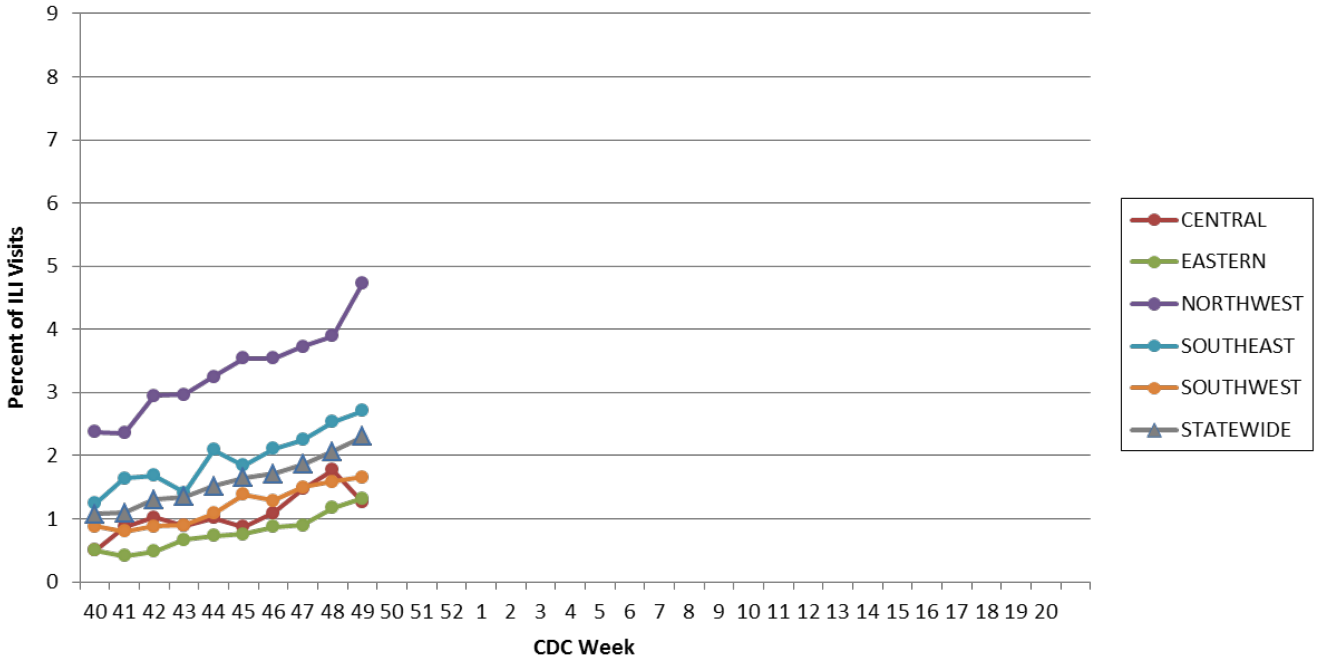
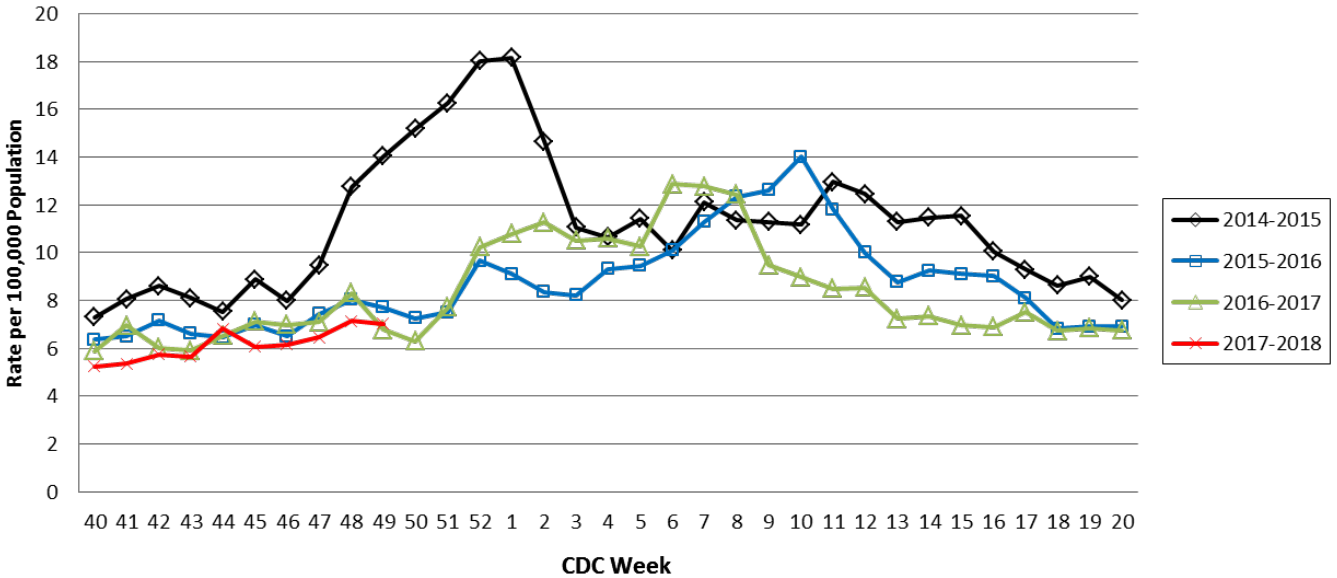
Figure 9. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Region and Statewide, 2017-2018 Influenza Season*



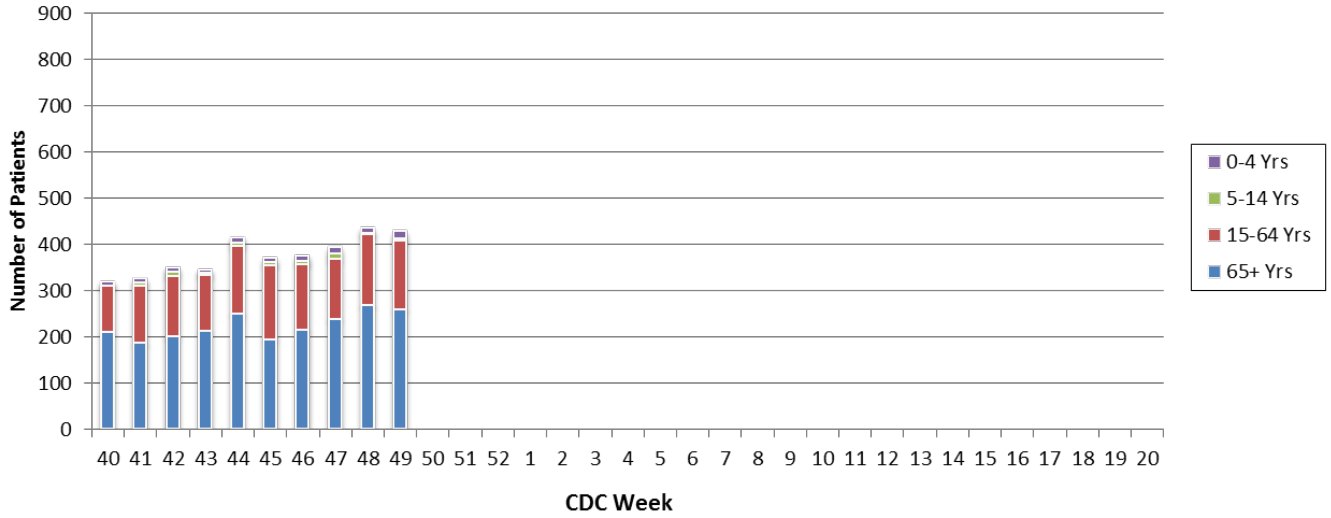
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 10. Weekly Rate of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Missouri Hospitals, 2014-2018 Influenza Seasons



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.
Population data from DHSS Population MICA 2015 (http://health.mo.gov/data/mica/mica/population.php).

Figure 11. Number of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Participating Missouri Hospitals, by Age Group, Week 49, 2017-2018 Influenza Season



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.

Additional Influenza Data Sources:

Centers for Disease Control and Prevention: National Influenza Surveillance (FluView):
http://www.cdc.gov/flu/weekly/fluactivitysurv.htm

The National Respiratory and Enteric Virus Surveillance System (NREVSS):
https://www.cdc.gov/surveillance/nrevss/

World Health Organization: International Influenza Surveillance:
http://www.who.int/influenza/surveillance_monitoring/en/

Missouri Weekly Influenza Surveillance Report
2017-2018 Influenza Season[1]

Week 50: December 10 – 16, 2017

All data are preliminary and may change as more reports are received.

Summary:

- The estimated influenza activity in Missouri is Widespread[2].

- During Week 50, a total of 1,630 laboratory-positive[3] influenza cases (1,390 influenza A, 231 influenza B, and nine untyped) were reported. A season-to-date total of 5,715 laboratory-positive influenza cases (4,363 influenza A, 1,300 influenza B, and 52 untyped) have been reported in Missouri as of Week 50. The influenza type for reported season-to date cases includes 76% influenza A, 23% influenza B, and 1% untyped. Fifteen laboratory-positive cases of influenza A (H3) were reported by the Missouri State Public Health Laboratory (MSPHL) during Week 50.

- Influenza-like illness (ILI) activity was above baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 3.49% (Figure 5) and 3.21% (Figure 7) through ILINet and ESSENCE respectively.[4] The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution. The percentage of respiratory specimens testing positive for influenza in Missouri laboratories reporting to the National Respiratory and Enteric Virus Surveillance System (NREVSS) increased during Week 50 (Figure 6).

- Two influenza-associated deaths have been reported in Missouri as of Week 50.[5] During Week 49, 46 deaths involving Pneumonia and Influenza (P&I) were reported to the Bureau of Vital Records, resulting in a season-to-date total of 416 P&I associated deaths in Missouri.[6]

- Eight outbreaks of influenza have been reported and three influenza or ILI-associated school closures have been reported in Missouri as of Week 50.

- Influenza activity increased in the U.S. during Week 49. National influenza surveillance information is prepared by CDC and is included in the weekly FluView report, which is available online at http://www.cdc.gov/flu/weekly/fluactivitysurv.htm.

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[1]The 2017-2018 influenza season begins CDC Week 40 (week ending October 7, 2017) and ends CDC Week 39 (week ending September 29, 2018).

[2]Widespread is defined as: Outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in at least half the regions of the state with recent laboratory evidence of influenza in the state.

[3]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

[4]Influenza-like illness (ILI) is defined by ILINet as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza. ILI is defined by ESSENCE as Emergency Department chief complaints for Influenza or (FeverPlus and (Cough or SoreThroat) and not NonILIFevers).

[5]All influenza-associated deaths became reportable in Missouri in 2016.

[6]The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

Surveillance Data:

Interactive Maps

The jurisdiction-specific influenza data are provided though interactive maps available at http://arcg.is/0mmOqC. *Click on the jurisdiction to view the influenza data specific to that jurisdiction.*

- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, CDC Week 50**
- **Reported Week-specific Rate per 100,000 Population, CDC Week 50**
- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, Season-to-Date**
- **Reported Rate per 100,000 Population, Season-to-Date**

Data Figures

Figure 1. Number of Laboratory-positive† Influenza Cases by Influenza Type, Missouri, CDC Week 50 (December 10 – 16, 2017)*

Influenza Type	Week 48	Week 49	Week 50	2017-2018* Season-to-Date
Influenza A	588	1,003	1,390	4,363
Influenza B	205	233	231	1,300
Influenza Unknown Or Untyped	7	5	9	52
Total	800	1,241	1,630	5,715

†Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 2. Number of Laboratory-positive† Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 50 (December 10 – 16, 2017)*‡

Age Group	Week 50 Cases	Week 50 Rate‡	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate‡
00-04	229	61.17	882	235.60
05-24	707	44.06	2,119	132.06
25-49	268	14.01	1,098	57.38
50-64	192	15.53	741	59.93
65+	234	24.50	875	91.63
Total	1,630	26.79	5,715	93.94

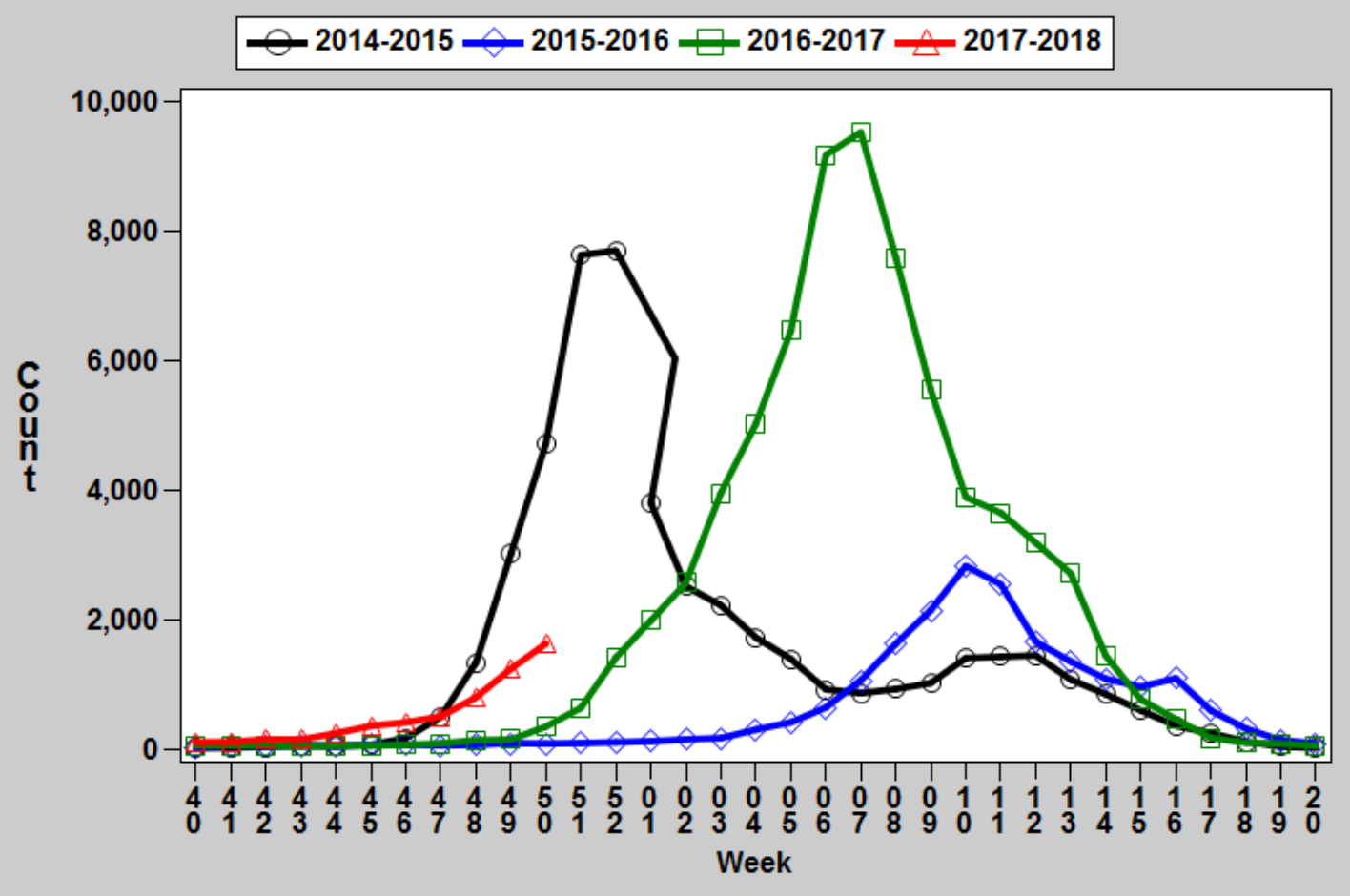
†Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
‡Incidence Rate per 100,000 population

Figure 3. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Region, Missouri, CDC Week 50 (December 10 – 16, 2017)[*‡]

Region	Week 50 Cases	Week 50 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
Central	329	48.60	843	124.52
Eastern	615	27.14	1,671	73.74
Northwest	214	13.40	1,066	66.73
Southeast	215	45.58	1,087	230.44
Southwest	257	23.99	1,048	97.83
Total	1,630	26.79	5,715	93.94

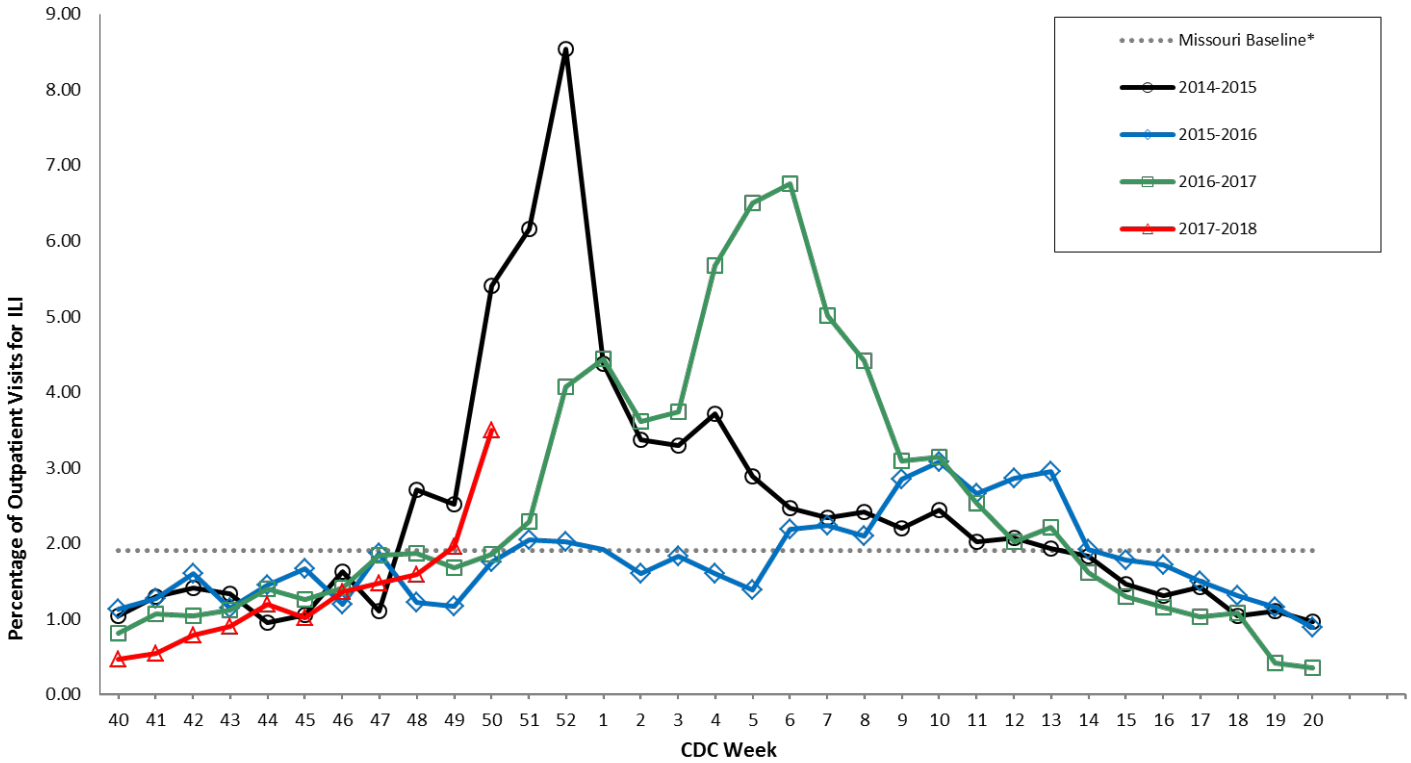
[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 4. Number of Laboratory-positive[†] Influenza Cases by CDC Week, Missouri, 2014-2018[*]



[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. Week 53, 2014-2015 flu season has 3,082 reported confirmed cases. Data Source: Missouri Health Information Surveillance System (WebSurv).

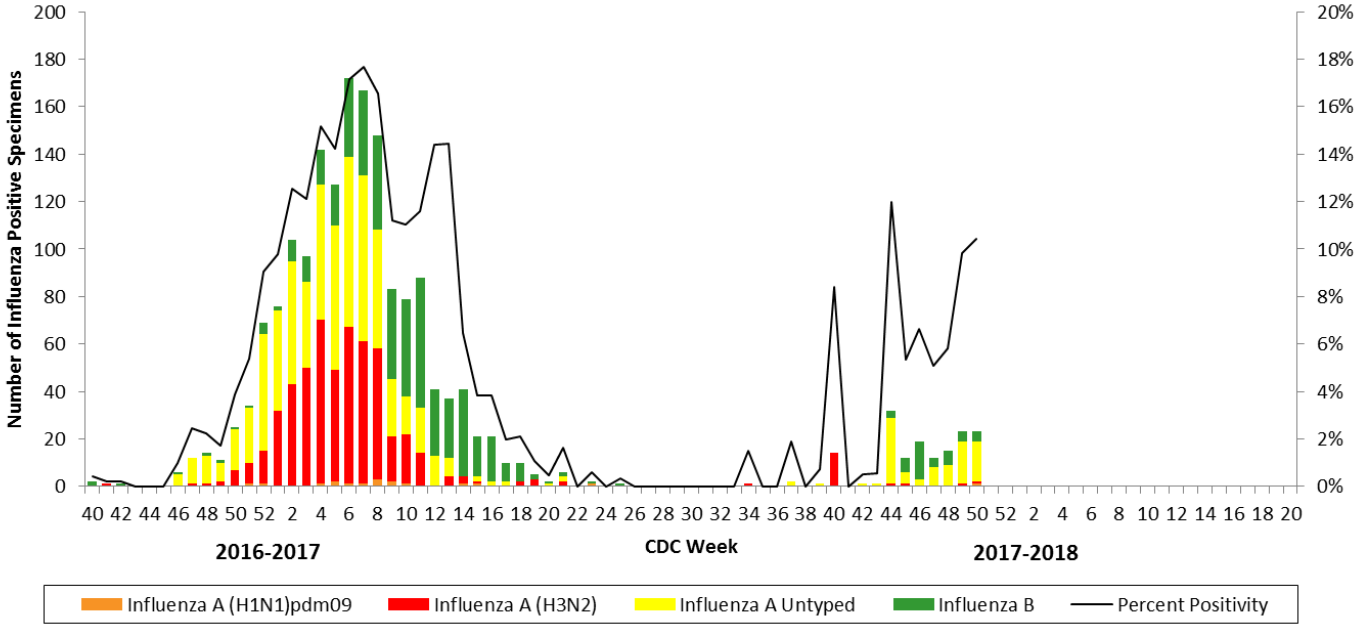
Figure 5. Percentage of Outpatient Visits for Influenza-like Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2014-2018*†



*The ILINet Region 7 (MO, IA, KS, NE) baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons, plus two standard deviations. A non-influenza week is defined as periods of two or more consecutive weeks in which each week accounted for less than 2% of the season's total number of specimens that tested positive for influenza.
Data Source: U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Centers for Disease Control and Prevention (CDC).

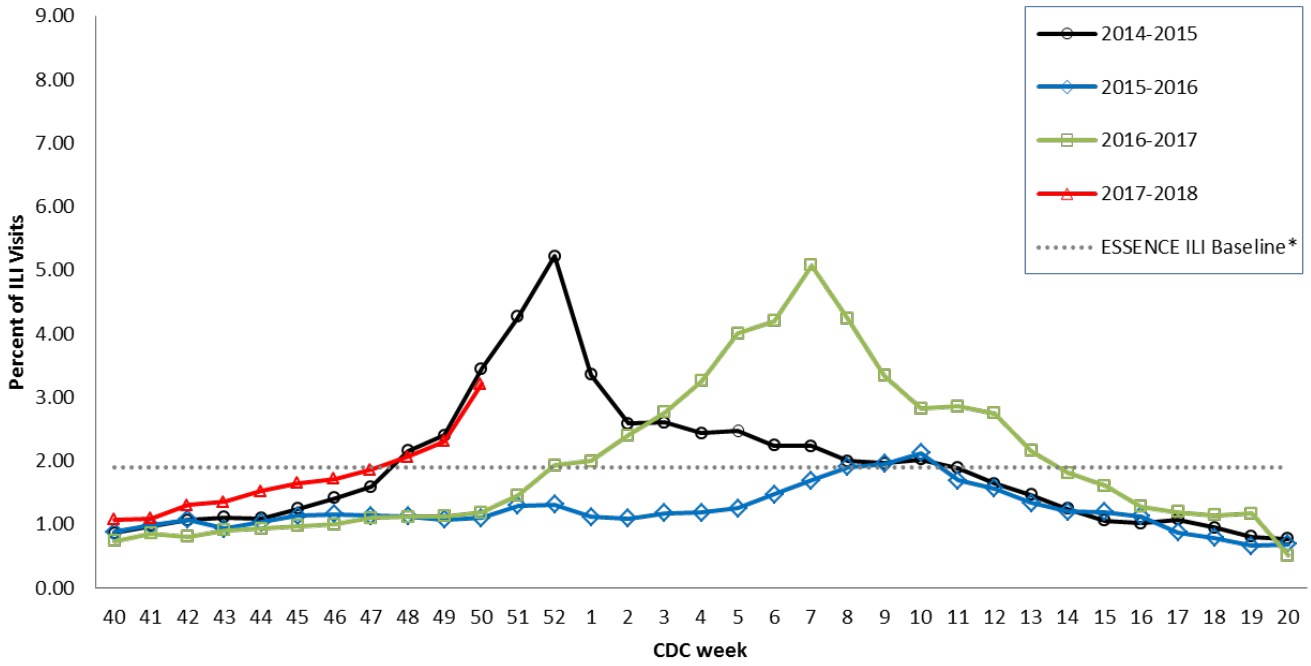
†2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of outpatient visits for ILI during Week 53 was 7.63.

Figure 6. Season-to-Date PCR (+) Tests for Influenza in Missouri



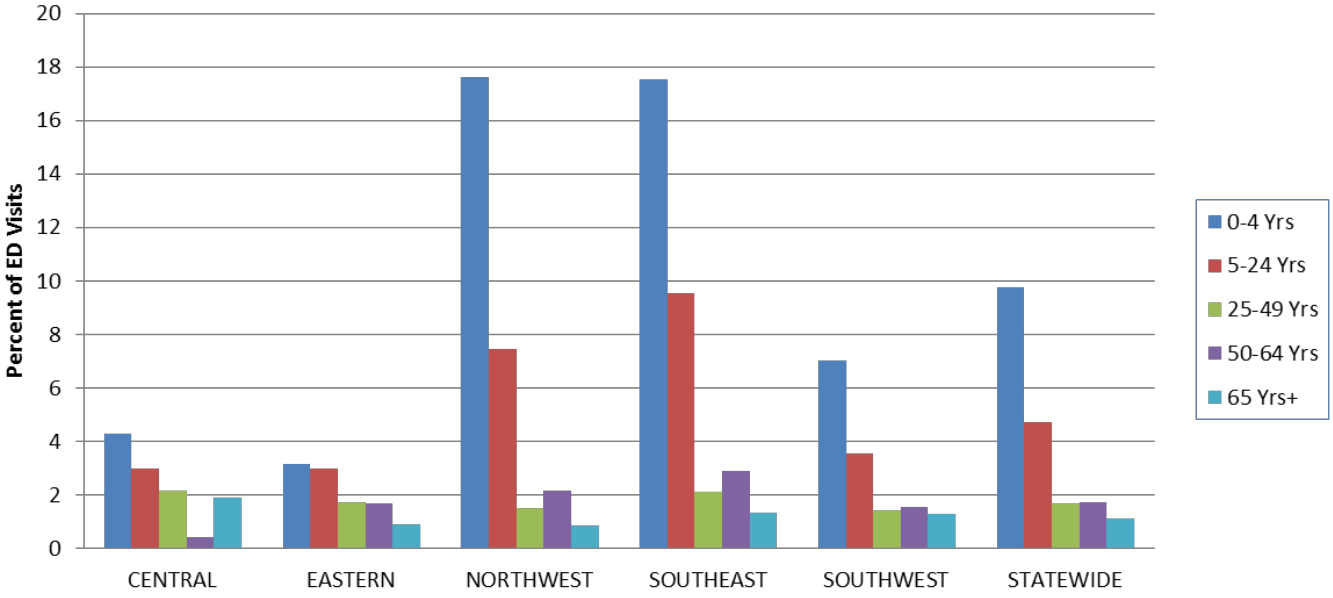
Data Source: National Respiratory and Enteric Virus Surveillance System (NREVSS), Centers for Disease Control and Prevention (CDC).
2016-2017 season-to-date through the week ending May 19, 2018 (Week 20).

Figure 7. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, 2014-2018 Influenza Seasons*†‡



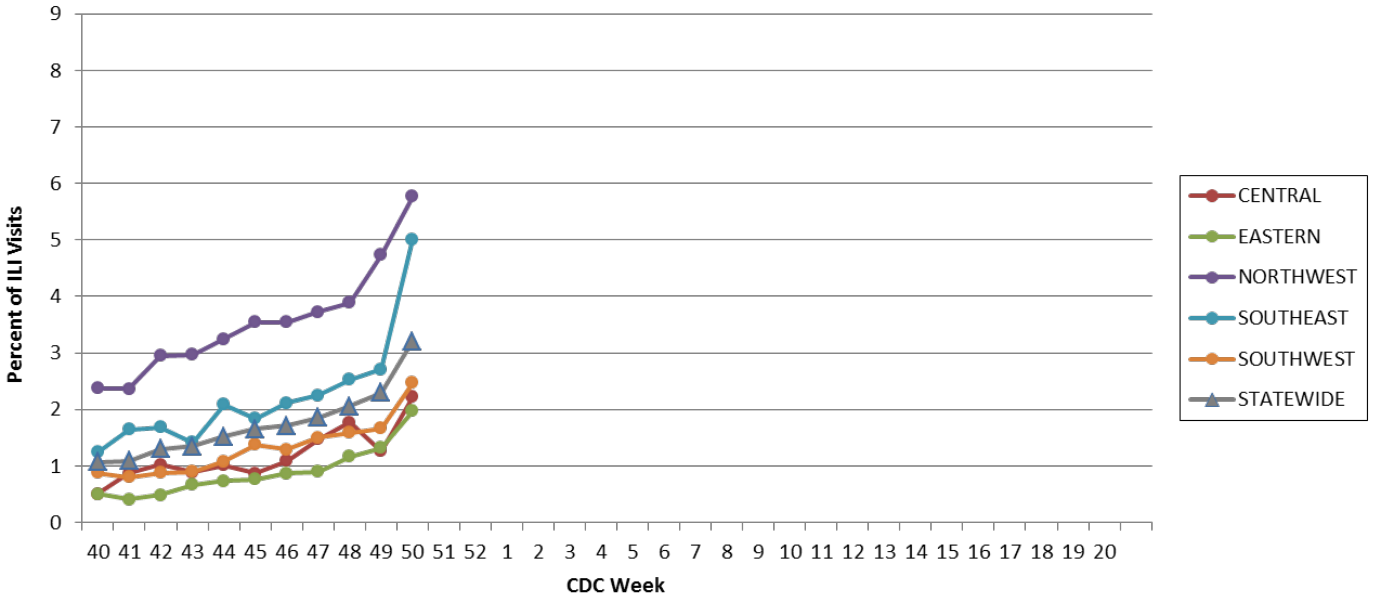
*The ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2014-16) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
†The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of visits for ILI in ESSENCE participating hospitals during Week 53 was 4.38%.
‡The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 8. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Age Group, Region and Statewide, Week 50, 2017*



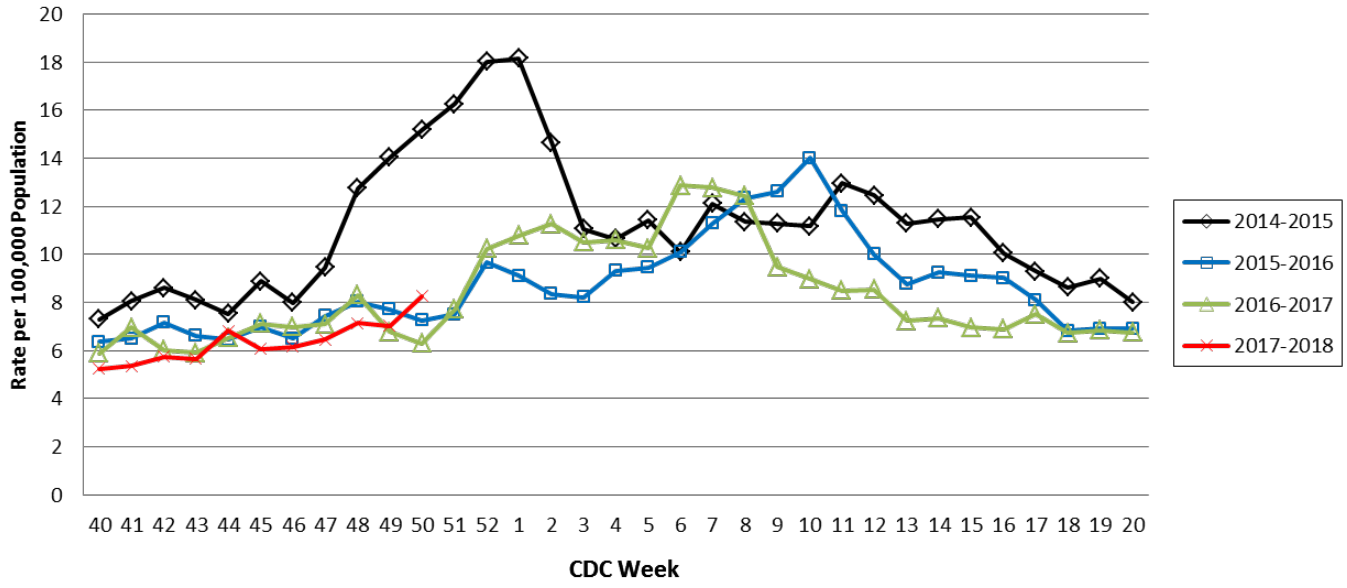
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 9. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Region and Statewide, 2017-2018 Influenza Season*



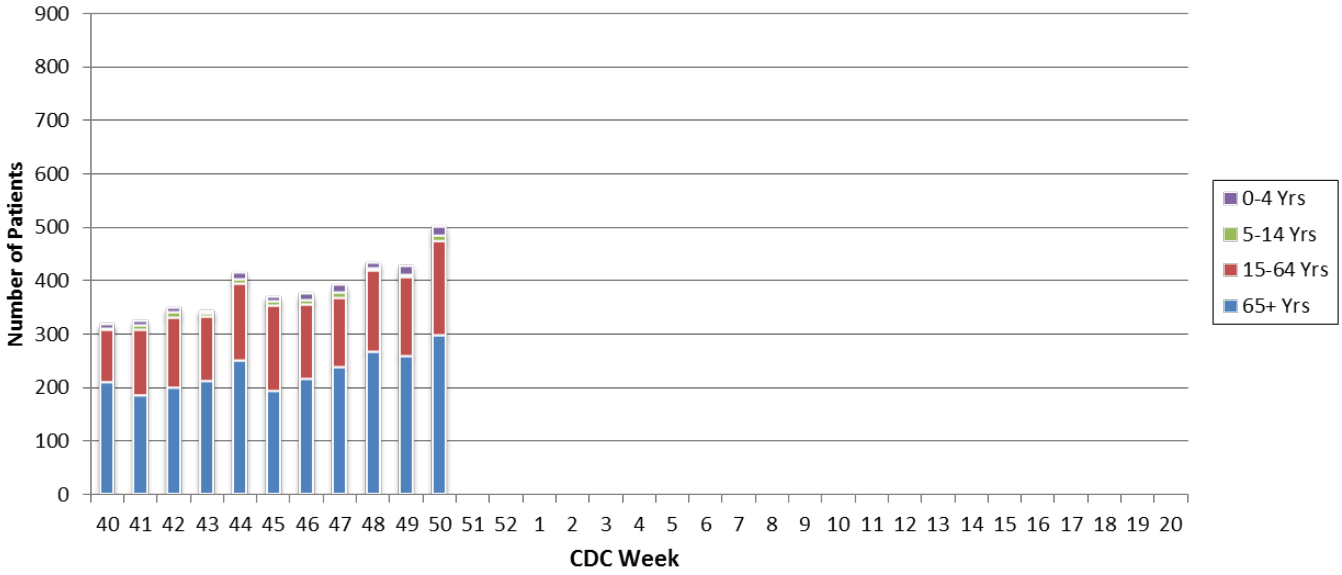
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 10. Weekly Rate of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Missouri Hospitals, 2014-2018 Influenza Seasons



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.
Population data from DHSS Population MICA 2015 (http://health.mo.gov/data/mica/mica/population.php).

Figure 11. Number of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Participating Missouri Hospitals, by Age Group, Week 50, 2017-2018 Influenza Season



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.

Additional Influenza Data Sources:

Centers for Disease Control and Prevention: National Influenza Surveillance (FluView):
http://www.cdc.gov/flu/weekly/fluactivitysurv.htm

The National Respiratory and Enteric Virus Surveillance System (NREVSS):
https://www.cdc.gov/surveillance/nrevss/

World Health Organization: International Influenza Surveillance:
http://www.who.int/influenza/surveillance_monitoring/en/

Missouri Weekly Influenza Surveillance Report
2017-2018 Influenza Season[1]

Week 51: December 17 – 23, 2017

All data are preliminary and may change as more reports are received.

Summary:

- The estimated influenza activity in Missouri is Widespread[2].

- During Week 51, a total of 2,025 laboratory-positive[3] influenza cases (1,758 influenza A, 251 influenza B, and 16 untyped) were reported. A season-to-date total of 8,458 laboratory-positive influenza cases (6,720 influenza A, 1,665 influenza B, and 73 untyped) have been reported in Missouri as of Week 51. The influenza type for reported season-to date cases includes 79% influenza A, 20% influenza B, and 1% untyped. Fourteen laboratory-positive cases of influenza (10 influenza A (H3), two influenza A (H1N1), and two influenza B (Yamagata)) were reported by the Missouri State Public Health Laboratory (MSPHL) during Week 51.

- Influenza-like illness (ILI) activity was above baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 11.18% (Figure 5) and 4.62% (Figure 7) through ILINet and ESSENCE respectively.[4] The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution. The percentage of respiratory specimens testing positive for influenza in Missouri laboratories reporting to the National Respiratory and Enteric Virus Surveillance System (NREVSS) increased during Week 51 (Figure 6).

- Five influenza-associated deaths have been reported in Missouri as of Week 51.[5] During Week 50, 58 deaths involving Pneumonia and Influenza (P&I) were reported to the Bureau of Vital Records, resulting in a season-to-date total of 474 P&I associated deaths in Missouri.[6]

- Seventeen outbreaks of influenza have been reported and three influenza or ILI-associated school closures have been reported in Missouri as of Week 51.

- Influenza activity sharply increased in the U.S. during Week 50. National influenza surveillance information is prepared by CDC and is included in the weekly FluView report, which is available online at http://www.cdc.gov/flu/weekly/fluactivitysurv.htm.

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[1]The 2017-2018 influenza season begins CDC Week 40 (week ending October 7, 2017) and ends CDC Week 39 (week ending September 29, 2018).

[2]Widespread is defined as: Outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in at least half the regions of the state with recent laboratory evidence of influenza in the state.

[3]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

[4]Influenza-like illness (ILI) is defined by ILINet as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza. ILI is defined by ESSENCE as Emergency Department chief complaints for Influenza or (FeverPlus and (Cough or SoreThroat) and not NonILIFevers).

[5]All influenza-associated deaths became reportable in Missouri in 2016.

[6]The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

Surveillance Data:

Interactive Maps

The jurisdiction-specific influenza data are provided though interactive maps available at https://arcg.is/14Pbee. *Click on the jurisdiction to view the influenza data specific to that jurisdiction.*

- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, CDC Week 51**
- **Reported Week-specific Rate per 100,000 Population, CDC Week 51**
- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, Season-to-Date**
- **Reported Rate per 100,000 Population, Season-to-Date**

Data Figures

Figure 1. Number of Laboratory-positive[†] Influenza Cases by Influenza Type, Missouri, CDC Week 51 (December 17 – 23, 2017)[*]

Influenza Type	Week 49	Week 50	Week 51	2017-2018* Season-to-Date
Influenza A	1,042	1,942	1,758	6,720
Influenza B	240	336	251	1,665
Influenza Unknown Or Untyped	8	11	16	73
Total	1,290	2,289	2,025	8,458

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 2. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 51 (December 17 – 23, 2017)[*‡]

Age Group	Week 51 Cases	Week 51 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
00-04	277	73.99	1,287	343.79
05-24	773	48.18	3,158	196.82
25-49	357	18.66	1,602	83.72
50-64	238	19.25	1,060	85.73
65+	380	39.79	1,351	141.48
Total	2,025	33.29	8,458	139.03

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 3. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Region, Missouri, CDC Week 51 (December 17 – 23, 2017)[*‡]

Region	Week 51 Cases	Week 51 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
Central	346	51.11	1,330	196.46
Eastern	900	39.71	2,658	117.29
Northwest	281	17.59	1,591	99.59
Southeast	235	49.82	1,450	307.40
Southwest	263	24.55	1,429	133.39
Total	2,025	33.29	8,458	139.03

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
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[‡]Incidence Rate per 100,000 population

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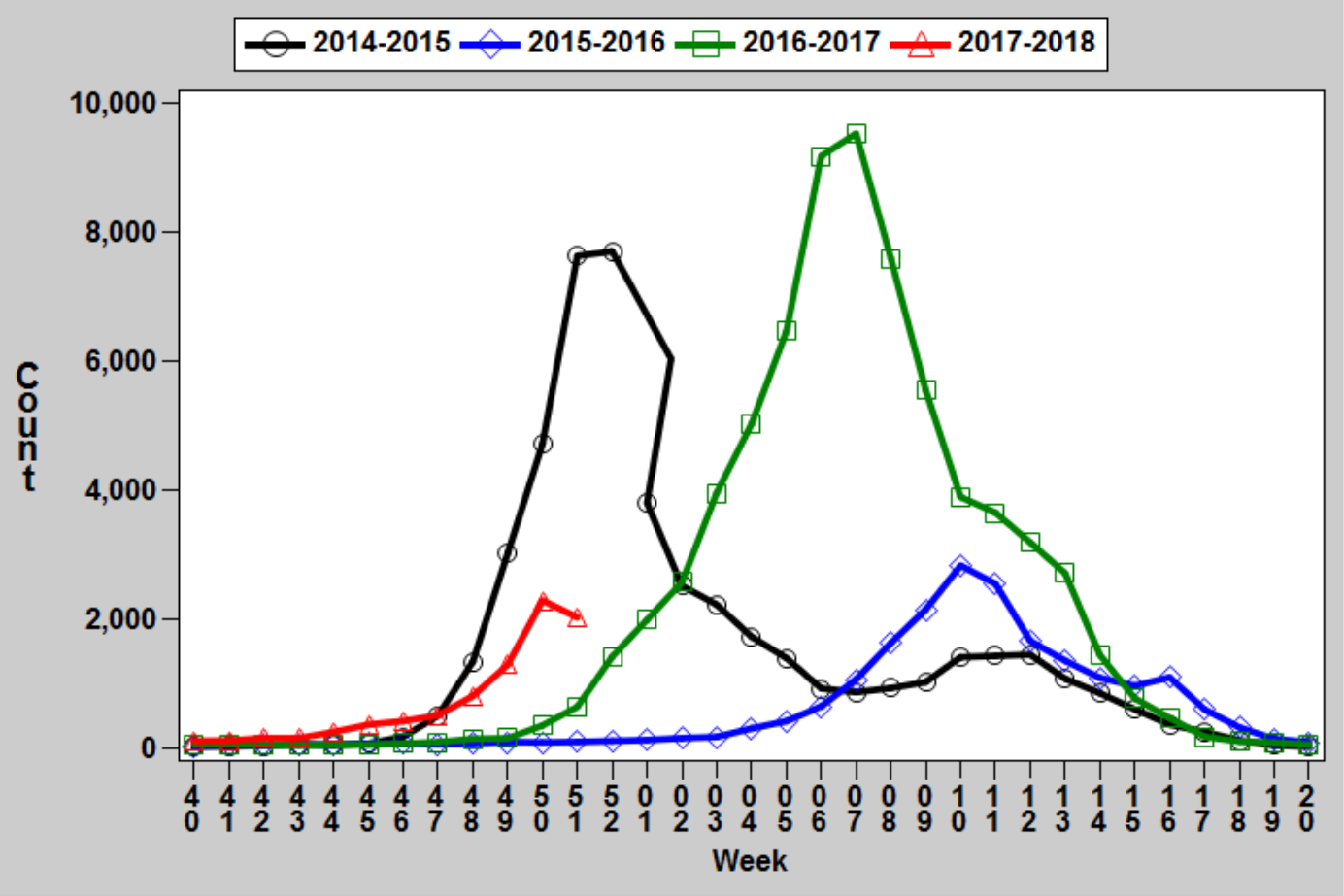

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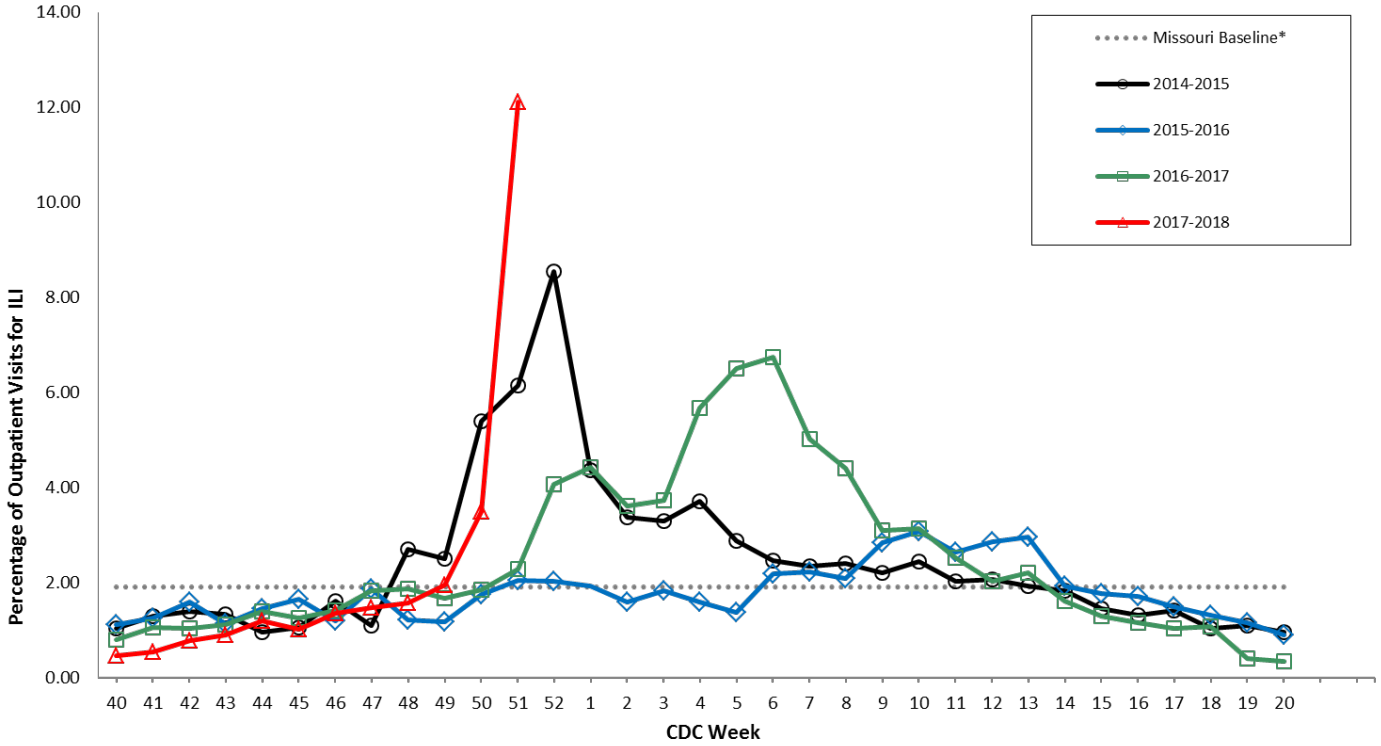
[*]2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. Week 53, 2014-2015 flu season has 3,082 reported confirmed cases. Data Source: Missouri Health Information Surveillance System (WebSurv).

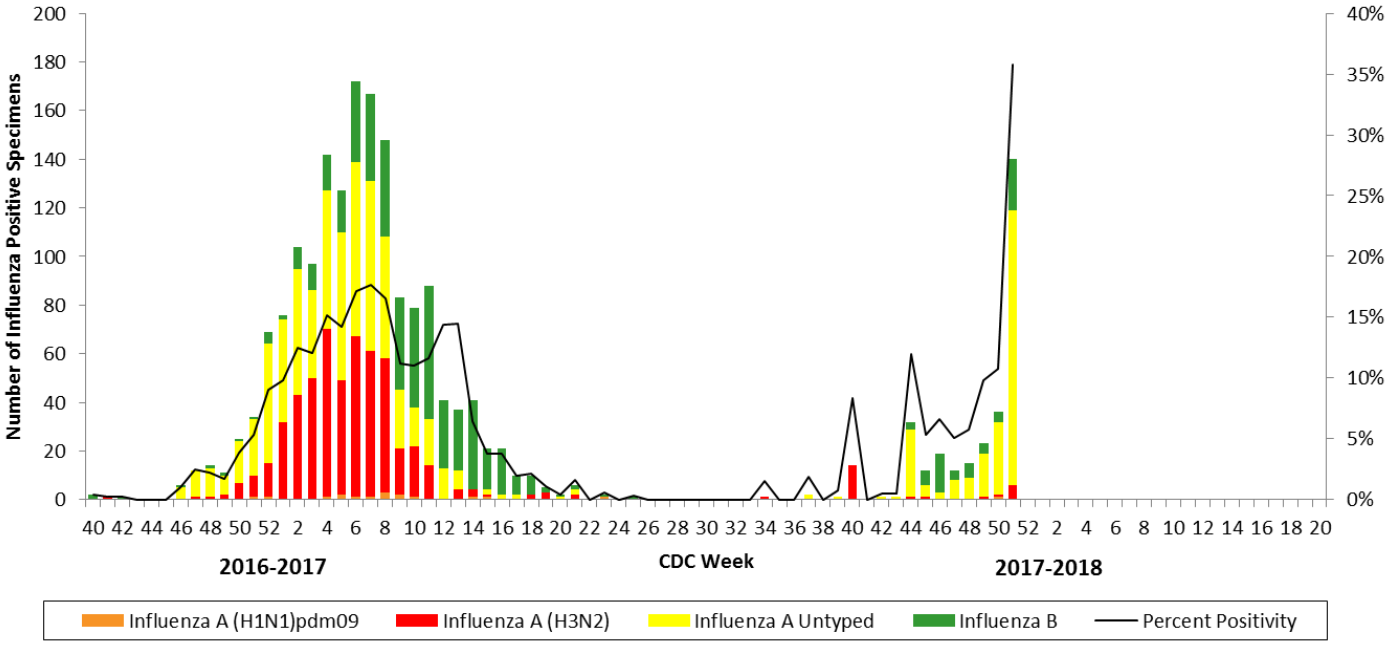
Figure 5. Percentage of Outpatient Visits for Influenza-like Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2014-2018*†



*The ILINet Region 7 (MO, IA, KS, NE) baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons, plus two standard deviations. A non-influenza week is defined as periods of two or more consecutive weeks in which each week accounted for less than 2% of the season's total number of specimens that tested positive for influenza.
Data Source: U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Centers for Disease Control and Prevention (CDC).

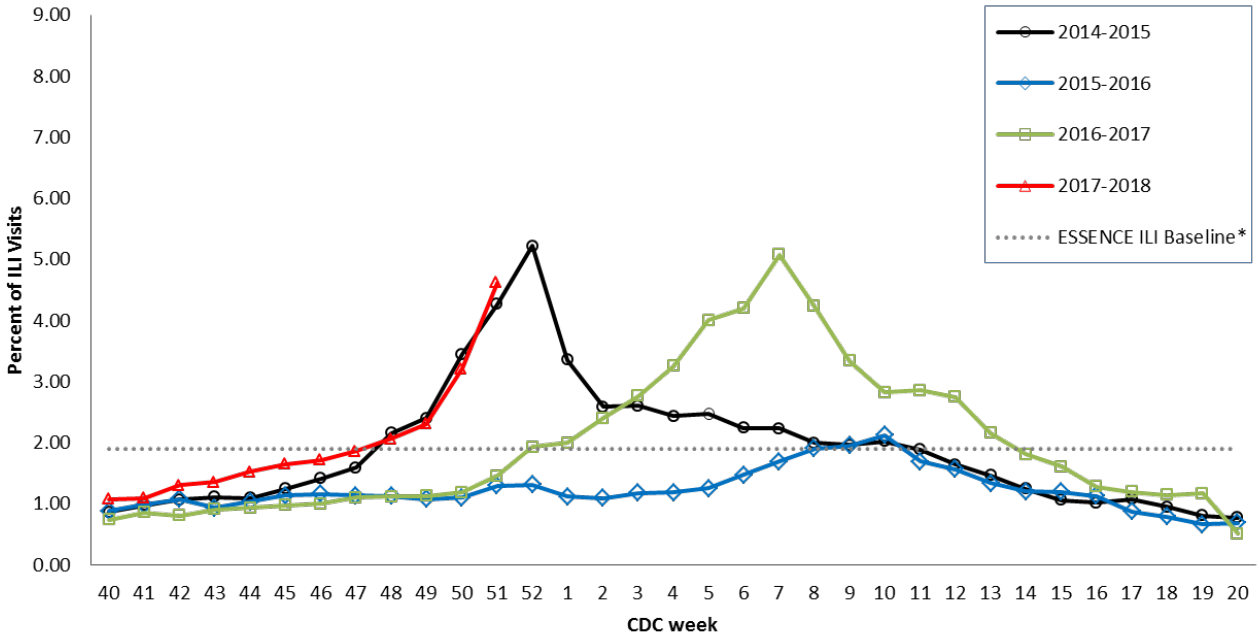
†2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of outpatient visits for ILI during Week 53 was 7.63.

Figure 6. Season-to-Date PCR (+) Tests for Influenza in Missouri



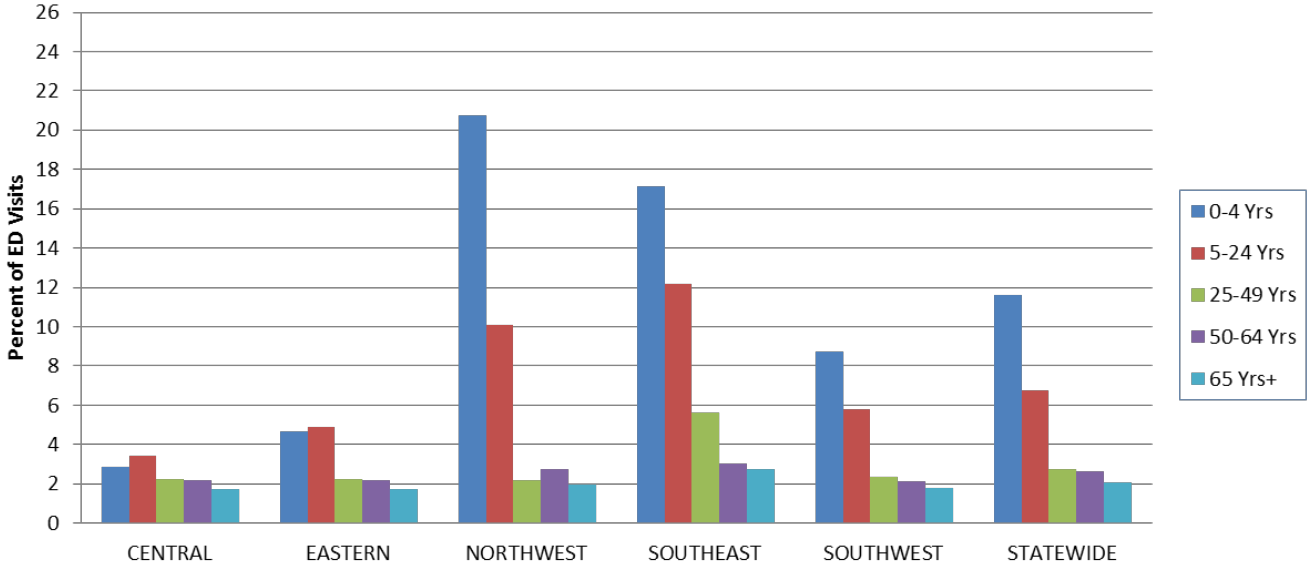
Data Source: National Respiratory and Enteric Virus Surveillance System (NREVSS), Centers for Disease Control and Prevention (CDC).
2016-2017 season-to-date through the week ending May 19, 2018 (Week 20).

Figure 7. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, 2014-2018 Influenza Seasons*†‡



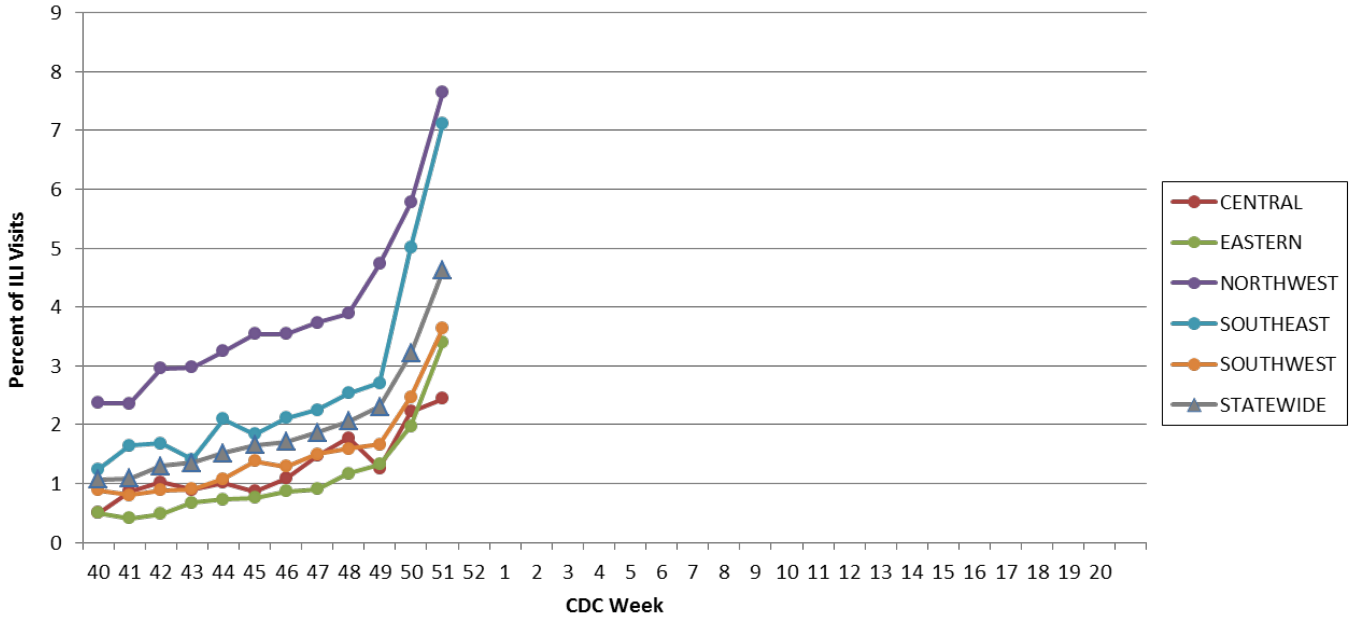
*The ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2014-16) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
†The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of visits for ILI in ESSENCE participating hospitals during Week 53 was 4.38%.
‡The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 8. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Age Group, Region and Statewide, Week 51, 2017*



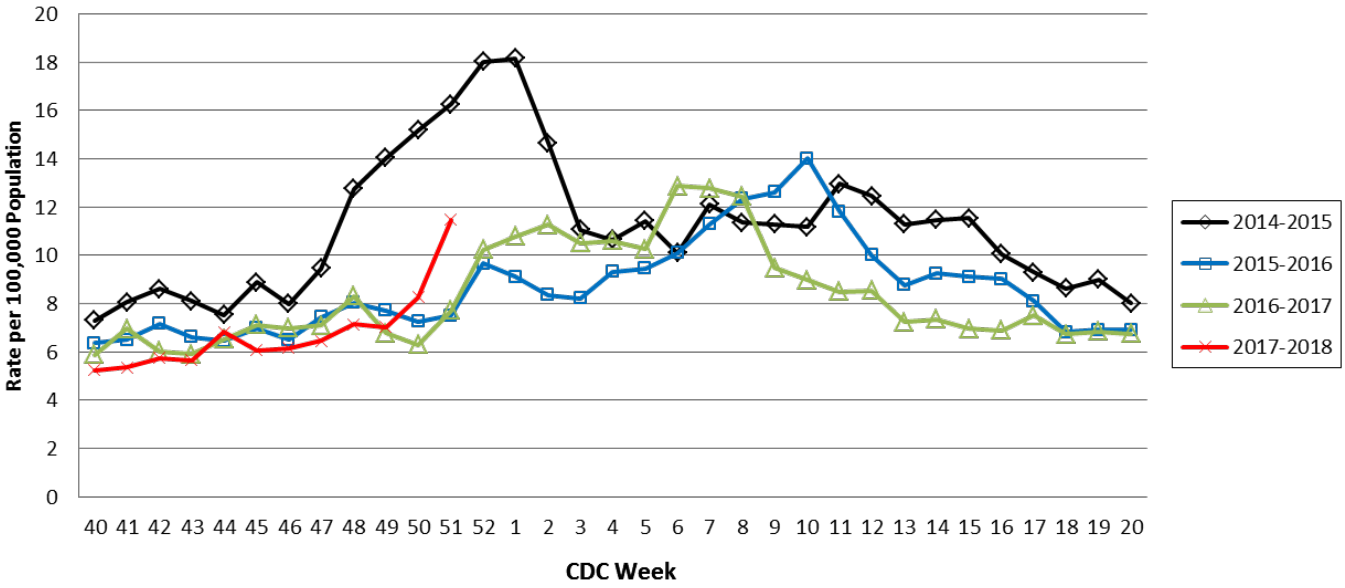
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 9. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Region and Statewide, 2017-2018 Influenza Season*



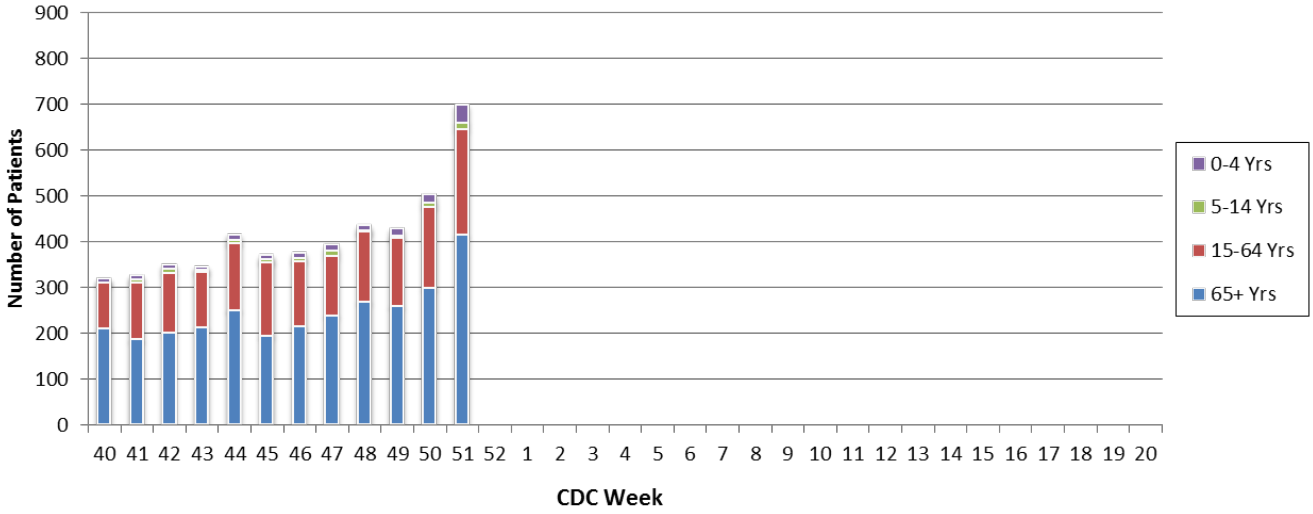
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 10. Weekly Rate of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Missouri Hospitals, 2014-2018 Influenza Seasons



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.
Population data from DHSS Population MICA 2015 (http://health.mo.gov/data/mica/mica/population.php).

Figure 11. Number of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Participating Missouri Hospitals, by Age Group, Week 51, 2017-2018 Influenza Season



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.

Additional Influenza Data Sources:

Centers for Disease Control and Prevention: National Influenza Surveillance (FluView):
http://www.cdc.gov/flu/weekly/fluactivitysurv.htm

The National Respiratory and Enteric Virus Surveillance System (NREVSS):
https://www.cdc.gov/surveillance/nrevss/

World Health Organization: International Influenza Surveillance:
http://www.who.int/influenza/surveillance_monitoring/en/

Missouri Weekly Influenza Surveillance Report
2017-2018 Influenza Season[1]

Week 52: December 24 – 30, 2017

All data are preliminary and may change as more reports are received.

Summary:

- The estimated influenza activity in Missouri is Widespread[2].

- During Week 52, a total of 4,862 laboratory-positive[3] influenza cases (4,065 influenza A, 744 influenza B, and 53 untyped) were reported. A season-to-date total of 17,182 laboratory-positive influenza cases (13,951 influenza A, 3,063 influenza B, and 168 untyped) have been reported in Missouri as of Week 52. The influenza type for reported season-to date cases includes 81% influenza A, 18% influenza B, and 1% untyped. Eight laboratory-positive cases of influenza (six influenza A (H3), one influenza A (H1N1), and one influenza B (Yamagata)) were reported by the Missouri State Public Health Laboratory (MSPHL) during Week 52.

- Influenza-like illness (ILI) activity was above baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 10.20% (Figure 5) and 5.77% (Figure 7) through ILINet and ESSENCE respectively.[4] The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution. The percentage of respiratory specimens testing positive for influenza in Missouri laboratories reporting to the National Respiratory and Enteric Virus Surveillance System (NREVSS) remained elevated during Week 52 (Figure 6).

- Nine influenza-associated deaths have been reported in Missouri as of Week 52.[5] During Week 51, 25 deaths involving Pneumonia and Influenza (P&I) were reported to the Bureau of Vital Records, resulting in a season-to-date total of 499 P&I associated deaths in Missouri.[6]

- Twenty-five outbreaks of influenza or ILI have been reported and three influenza or ILI-associated school closures have been reported in Missouri as of Week 51.

- Influenza activity sharply increased in the U.S. during Week 51. National influenza surveillance information is prepared by CDC and is included in the weekly FluView report, which is available online at http://www.cdc.gov/flu/weekly/fluactivitysurv.htm.

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[1]The 2017-2018 influenza season begins CDC Week 40 (week ending October 7, 2017) and ends CDC Week 39 (week ending September 29, 2018).

[2]Widespread is defined as: Outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in at least half the regions of the state with recent laboratory evidence of influenza in the state.

[3]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

[4]Influenza-like illness (ILI) is defined by ILINet as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza. ILI is defined by ESSENCE as Emergency Department chief complaints for Influenza or (FeverPlus and (Cough or SoreThroat) and not NonILIFevers).

[5]All influenza-associated deaths became reportable in Missouri in 2016.

[6]The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

Surveillance Data:

Interactive Maps

The jurisdiction-specific influenza data are provided though interactive maps available at http://arcg.is/1riy9b0. *Click on the jurisdiction to view the influenza data specific to that jurisdiction.*

- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, CDC Week 52**
- **Reported Week-specific Rate per 100,000 Population, CDC Week 52**
- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, Season-to-Date**
- **Reported Rate per 100,000 Population, Season-to-Date**

Data Figures

Figure 1. Number of Laboratory-positive[†] Influenza Cases by Influenza Type, Missouri, CDC Week 52 (December 24 – 30, 2017)[*]

Influenza Type	Week 50	Week 51	Week 52	2017-2018* Season-to-Date
Influenza A	2,353	4,435	4,065	13,951
Influenza B	412	810	744	3,063
Influenza Unknown Or Untyped	22	46	53	168
Total	2,787	5,291	4,862	17,182

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 2. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 52 (December 24 – 30, 2017)[*‡]

Age Group	Week 52 Cases	Week 52 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
00-04	734	196.07	2,616	698.79
05-24	1,513	94.30	6,105	380.49
25-49	979	51.16	3,328	173.92
50-64	694	56.13	2,285	184.81
65+	942	98.65	2,848	298.24
Total	4,862	79.92	17,182	282.43

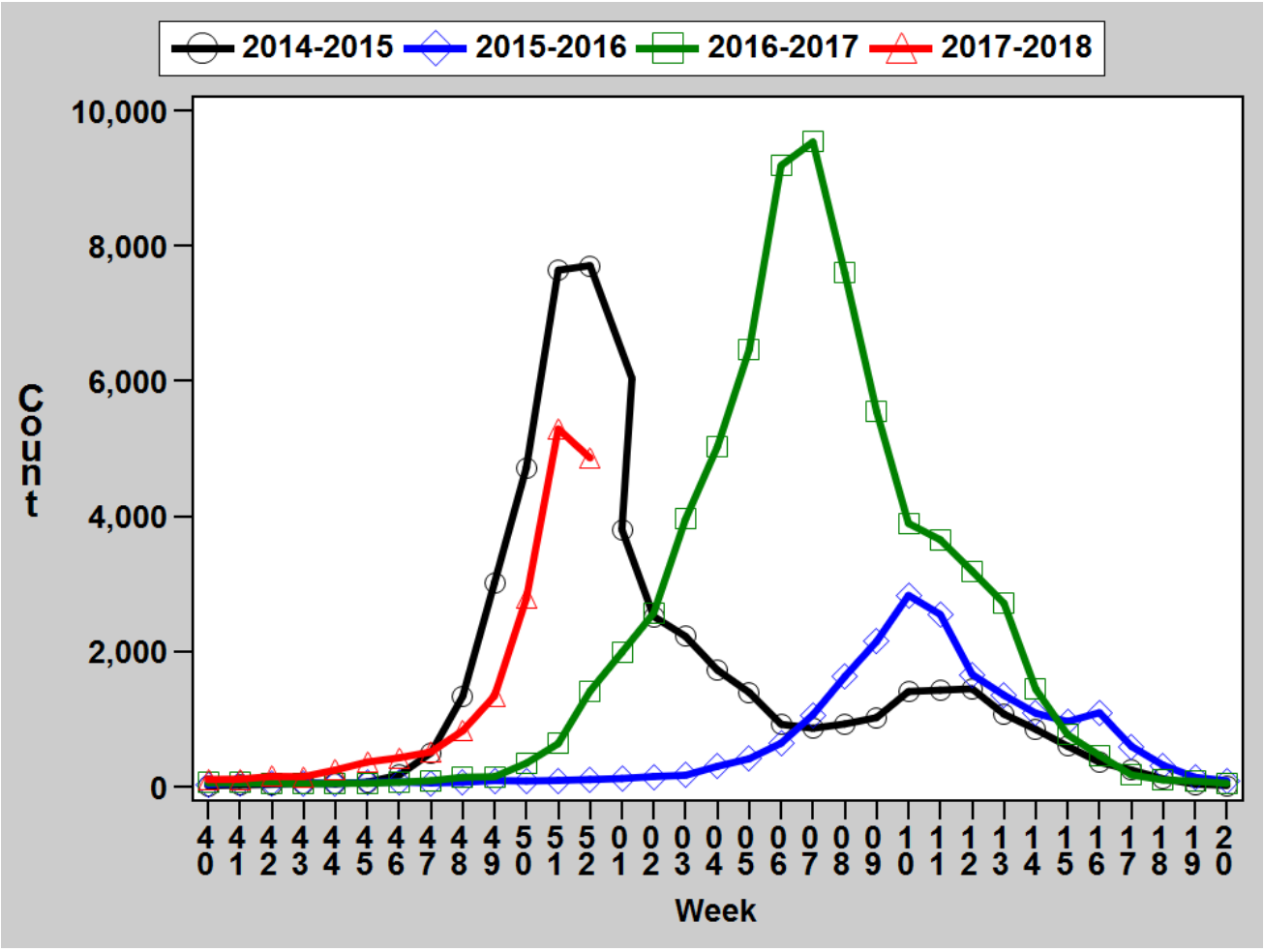
[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 3. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Region, Missouri, CDC Week 52 (December 24 – 30, 2017)[*‡]

Region	Week 52 Cases	Week 52 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
Central	437	64.55	2,259	333.68
Eastern	2,532	111.73	6,296	277.83
Northwest	703	44.01	3,240	202.81
Southeast	687	145.64	2,818	597.41
Southwest	503	46.95	2,569	239.80
Total	4,862	79.92	17,182	282.43

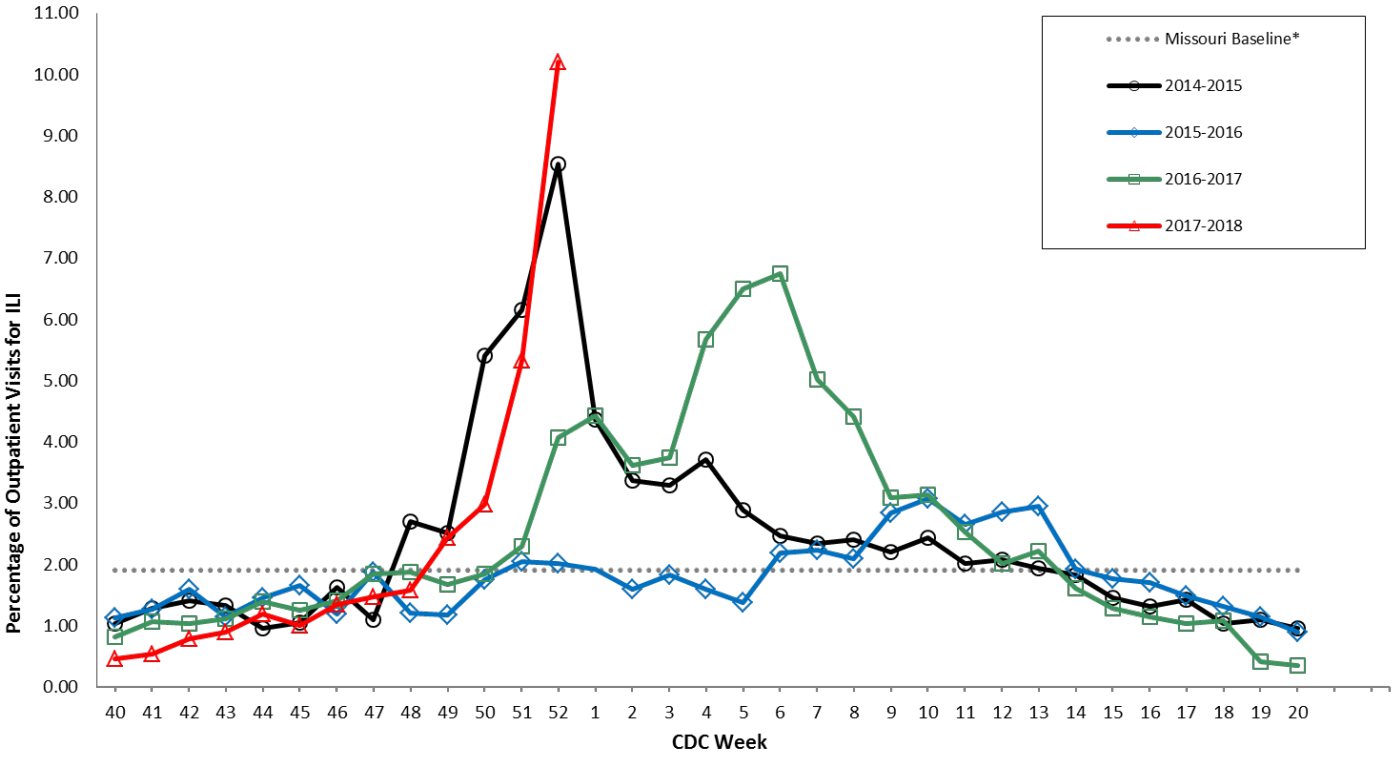
[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 4. Number of Laboratory-positive[†] Influenza Cases by CDC Week, Missouri, 2014-2018[*]



[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. Week 53, 2014-2015 flu season has 3,082 reported confirmed cases. Data Source: Missouri Health Information Surveillance System (WebSurv).

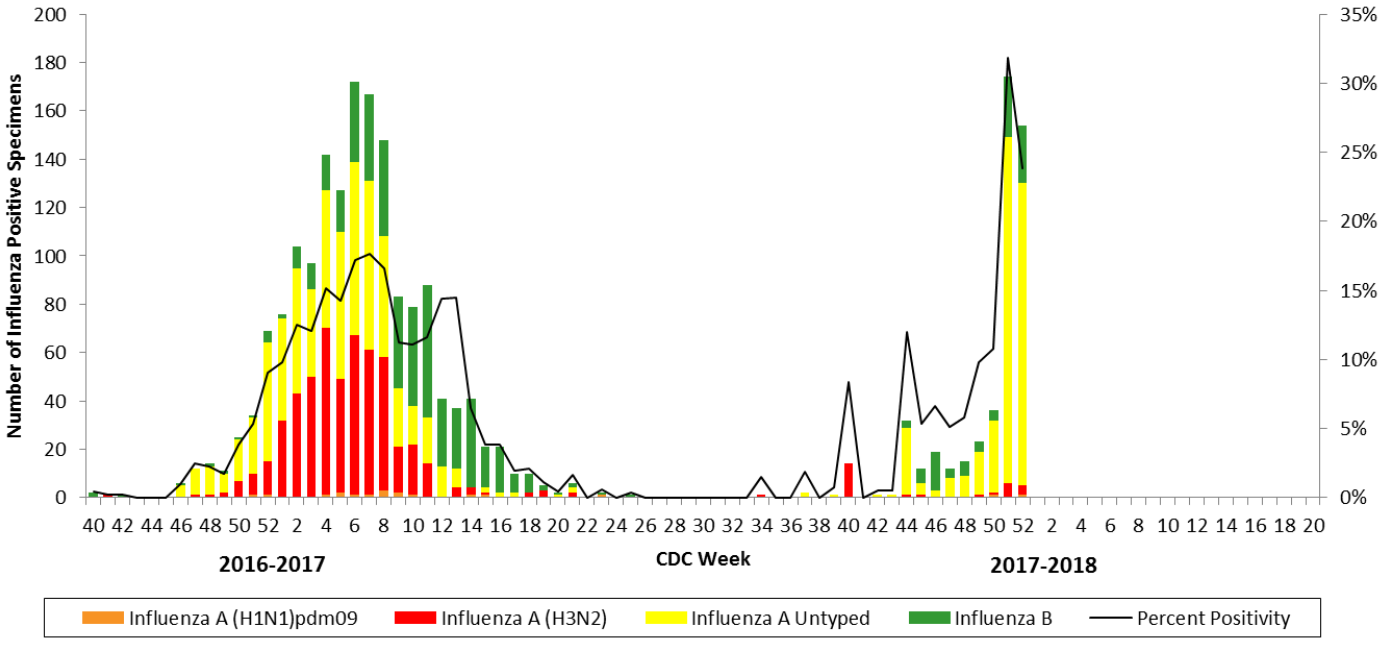
Figure 5. Percentage of Outpatient Visits for Influenza-like Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2014-2018*†



*The ILINet Region 7 (MO, IA, KS, NE) baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons, plus two standard deviations. A non-influenza week is defined as periods of two or more consecutive weeks in which each week accounted for less than 2% of the season's total number of specimens that tested positive for influenza.
Data Source: U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Centers for Disease Control and Prevention (CDC).

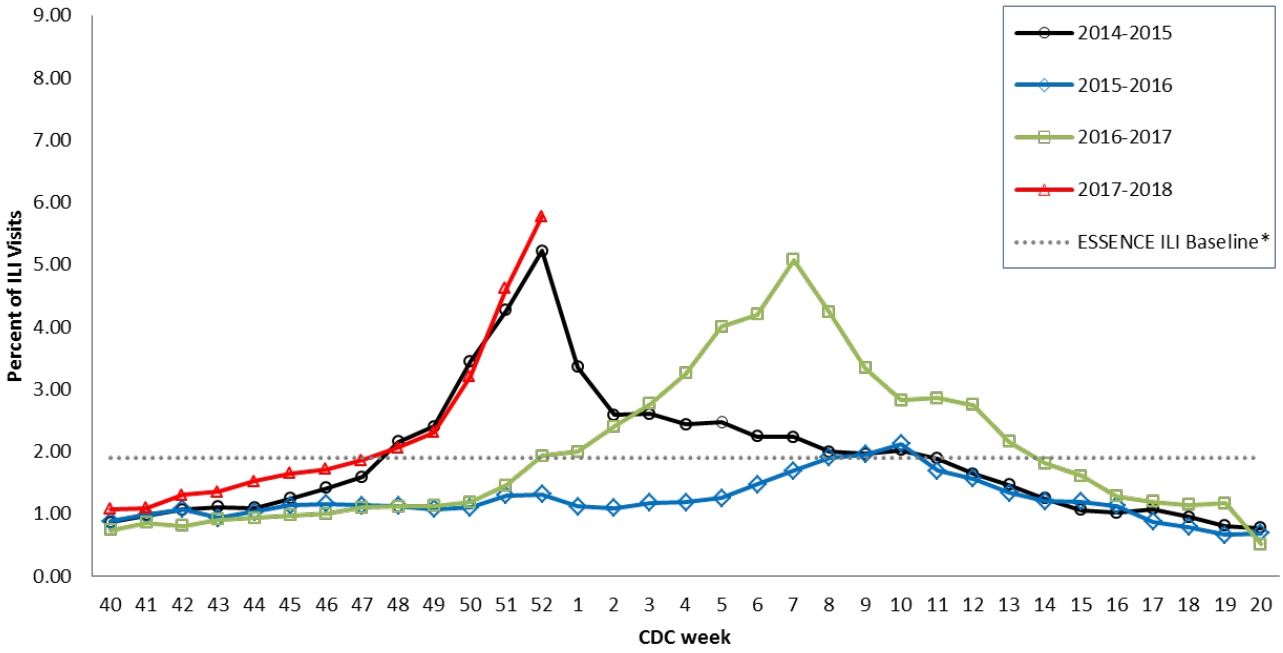
†2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of outpatient visits for ILI during Week 53 was 7.63.

Figure 6. Season-to-Date PCR (+) Tests for Influenza in Missouri



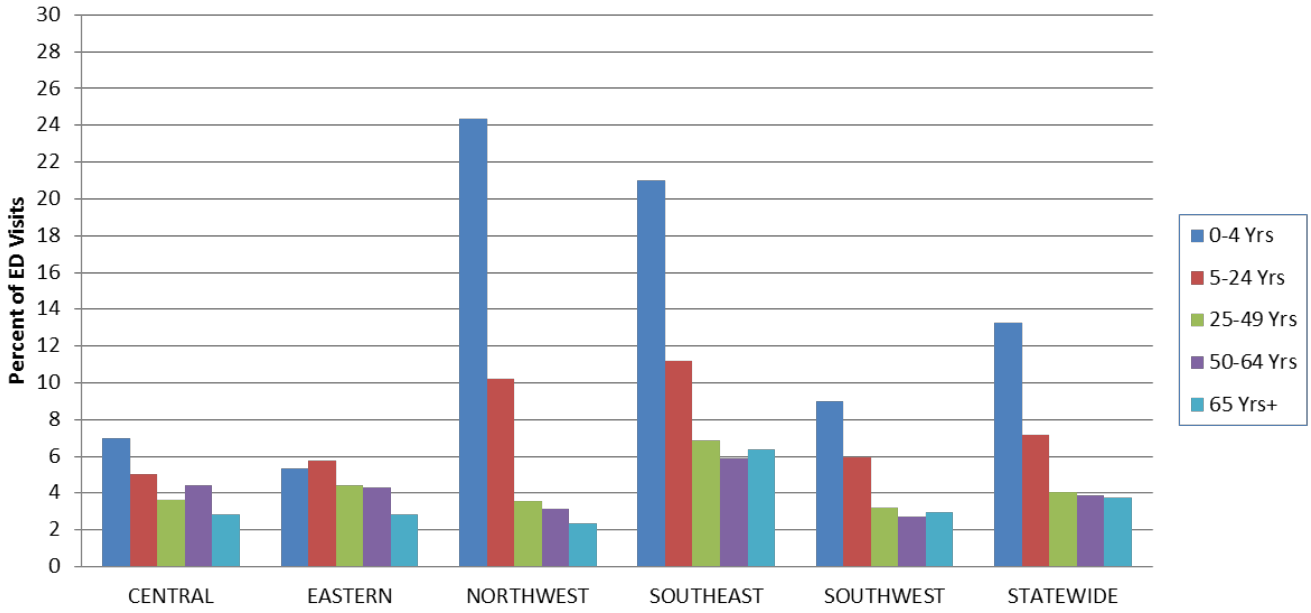
Data Source: National Respiratory and Enteric Virus Surveillance System (NREVSS), Centers for Disease Control and Prevention (CDC).
2016-2017 season-to-date through the week ending May 19, 2018 (Week 20).

Figure 7. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, 2014-2018 Influenza Seasons*†‡



*The ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2014-16) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
†The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of visits for ILI in ESSENCE participating hospitals during Week 53 was 4.38%.
‡The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 8. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Age Group, Region and Statewide, Week 52, 2017*



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
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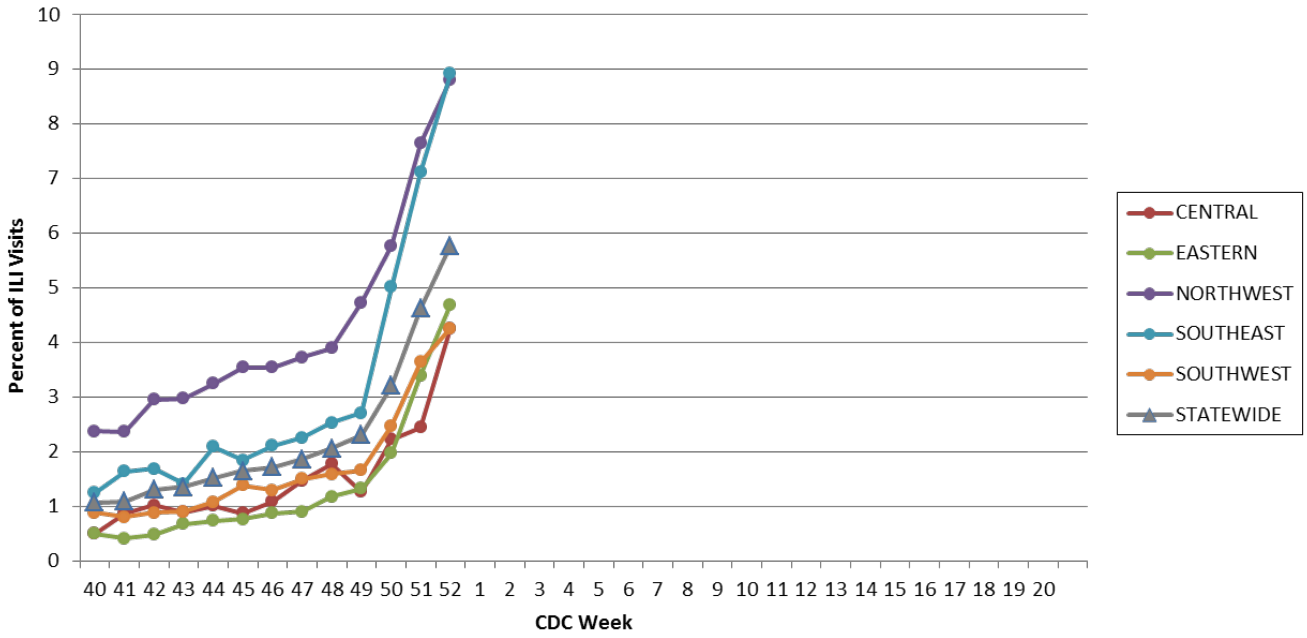
Figure 9. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Region and Statewide, 2017-2018 Influenza Season*



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
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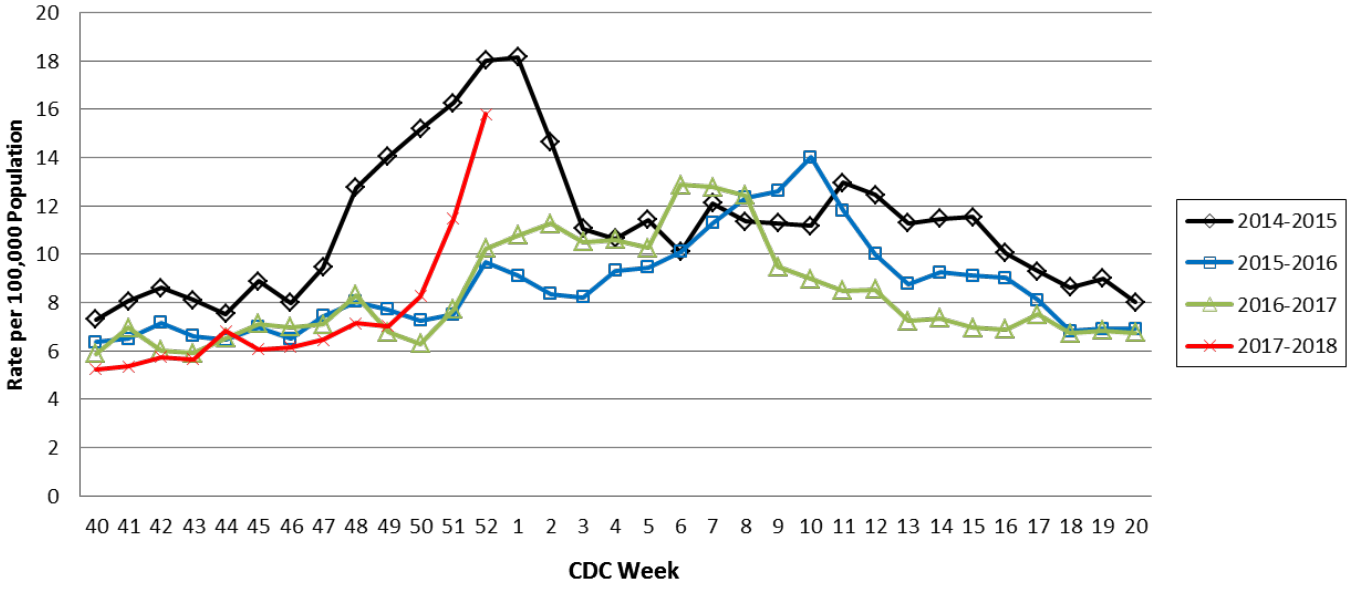
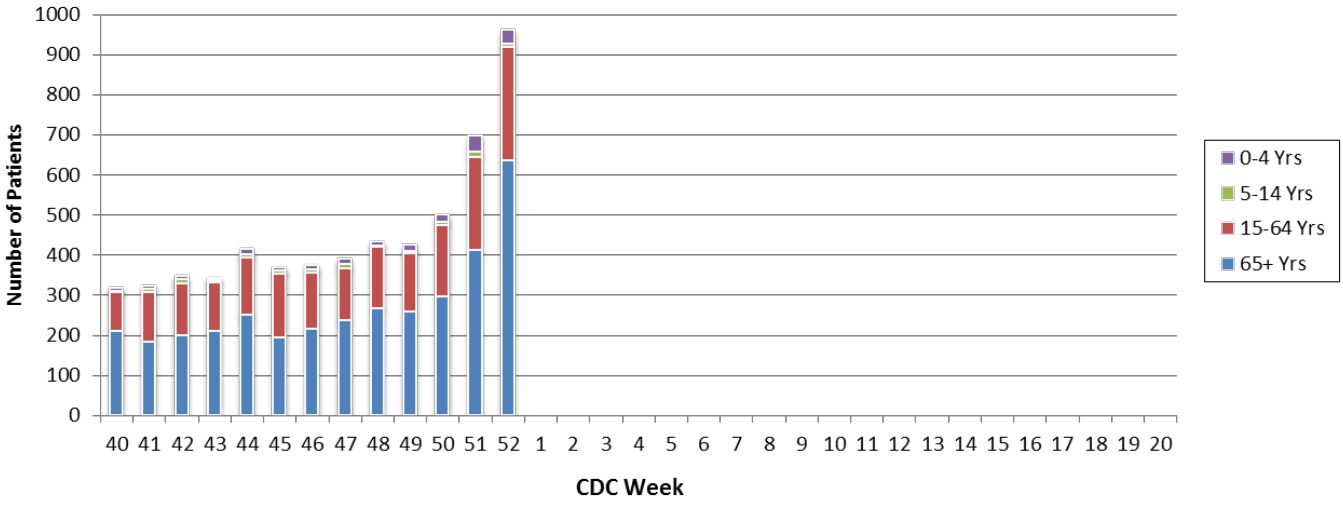
Figure 10. Weekly Rate of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Missouri Hospitals, 2014-2018 Influenza Seasons



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.
Population data from DHSS Population MICA 2015 (http://health.mo.gov/data/mica/mica/population.php).

Figure 11. Number of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Participating Missouri Hospitals, by Age Group, Week 52, 2017-2018 Influenza Season



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.

Additional Influenza Data Sources:

Centers for Disease Control and Prevention: National Influenza Surveillance (FluView): http://www.cdc.gov/flu/weekly/fluactivitysurv.htm

The National Respiratory and Enteric Virus Surveillance System (NREVSS): https://www.cdc.gov/surveillance/nrevss/

World Health Organization: International Influenza Surveillance: http://www.who.int/influenza/surveillance_monitoring/en/

Missouri Weekly Influenza Surveillance Report 2017-2018 Influenza Season[1]

Week 1: December 31, 2017 – January 6, 2018

All data are preliminary and may change as more reports are received.

Summary:

- The estimated influenza activity in Missouri is Widespread[2].

- During Week 1, a total of 8,187 laboratory-positive[3] influenza cases (6,728 influenza A, 1,417 influenza B, and 42 untyped) were reported. A season-to-date total of 30,932 laboratory-positive influenza cases (25,443 influenza A, 5,241 influenza B, and 248 untyped) have been reported in Missouri as of Week 1. The influenza type for reported season-to date cases includes 82% influenza A, 17% influenza B, and 1% untyped. Thirty-seven laboratory-positive cases of influenza (29 influenza A (H3), one influenza A (H1N1), and seven influenza B (Yamagata)) were reported by the Missouri State Public Health Laboratory (MSPHL) during Week 1.

- Influenza-like illness (ILI) activity was above baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 12.41% (Figure 5) and 6.45% (Figure 7) through ILINet and ESSENCE respectively.[4] The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution. The percentage of respiratory specimens testing positive for influenza in Missouri laboratories reporting to the National Respiratory and Enteric Virus Surveillance System (NREVSS) increased during Week 1 (Figure 6).

- Nineteen influenza-associated deaths have been reported in Missouri as of Week 1.[5] During Week 52, 52 deaths involving Pneumonia and Influenza (P&I) were reported to the Bureau of Vital Records, resulting in a season-to-date total of 551 P&I associated deaths in Missouri.[6]

- Twenty-eight outbreaks of influenza or ILI have been reported and three influenza or ILI-associated school closures have been reported in Missouri as of Week 1.

- Influenza activity increased sharply in the U.S. during Week 52. National influenza surveillance information is prepared by CDC and is included in the weekly FluView report, which is available online at http://www.cdc.gov/flu/weekly/fluactivitysurv.htm.

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[1]The 2017-2018 influenza season begins CDC Week 40 (week ending October 7, 2017) and ends CDC Week 39 (week ending September 29, 2018).

[2]Widespread is defined as: Outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in at least half the regions of the state with recent laboratory evidence of influenza in the state.

[3]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

[4]Influenza-like illness (ILI) is defined by ILINet as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza. ILI is defined by ESSENCE as Emergency Department chief complaints for Influenza or (FeverPlus and (Cough or SoreThroat) and not NonILIFevers).

[5]All influenza-associated deaths became reportable in Missouri in 2016.

[6]The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

Surveillance Data:

Interactive Maps

The jurisdiction-specific influenza data are provided though interactive maps available at http://arcg.is/0bXvOL. *Click on the jurisdiction to view the influenza data specific to that jurisdiction.*

- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, CDC Week 1**
- **Reported Week-specific Rate per 100,000 Population, CDC Week 1**
- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, Season-to-Date**
- **Reported Rate per 100,000 Population, Season-to-Date**

Data Figures

Figure 1. Number of Laboratory-positive[†] Influenza Cases by Influenza Type, Missouri, CDC Week 1 (December 31, 2017 – January 6, 2018)[*]

Influenza Type	Week 51	Week 52	Week 1	2017-2018* Season-to-Date
Influenza A	5,588	7,461	6,728	25,443
Influenza B	1,004	1,296	1,417	5,241
Influenza Unknown Or Untyped	61	72	42	248
Total	6,653	8,829	8,187	30,932

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 2. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 1 (December 31, 2017 – January 6, 2018)[*‡]

Age Group	Week 1 Cases	Week 1 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
00-04	1,174	313.60	4,574	1,221.82
05-24	1,947	121.35	9,835	612.96
25-49	1,876	98.04	6,380	333.42
50-64	1,411	114.12	4,546	367.69
65+	1,779	186.30	5,597	586.12
Total	8,187	134.57	30,932	508.44

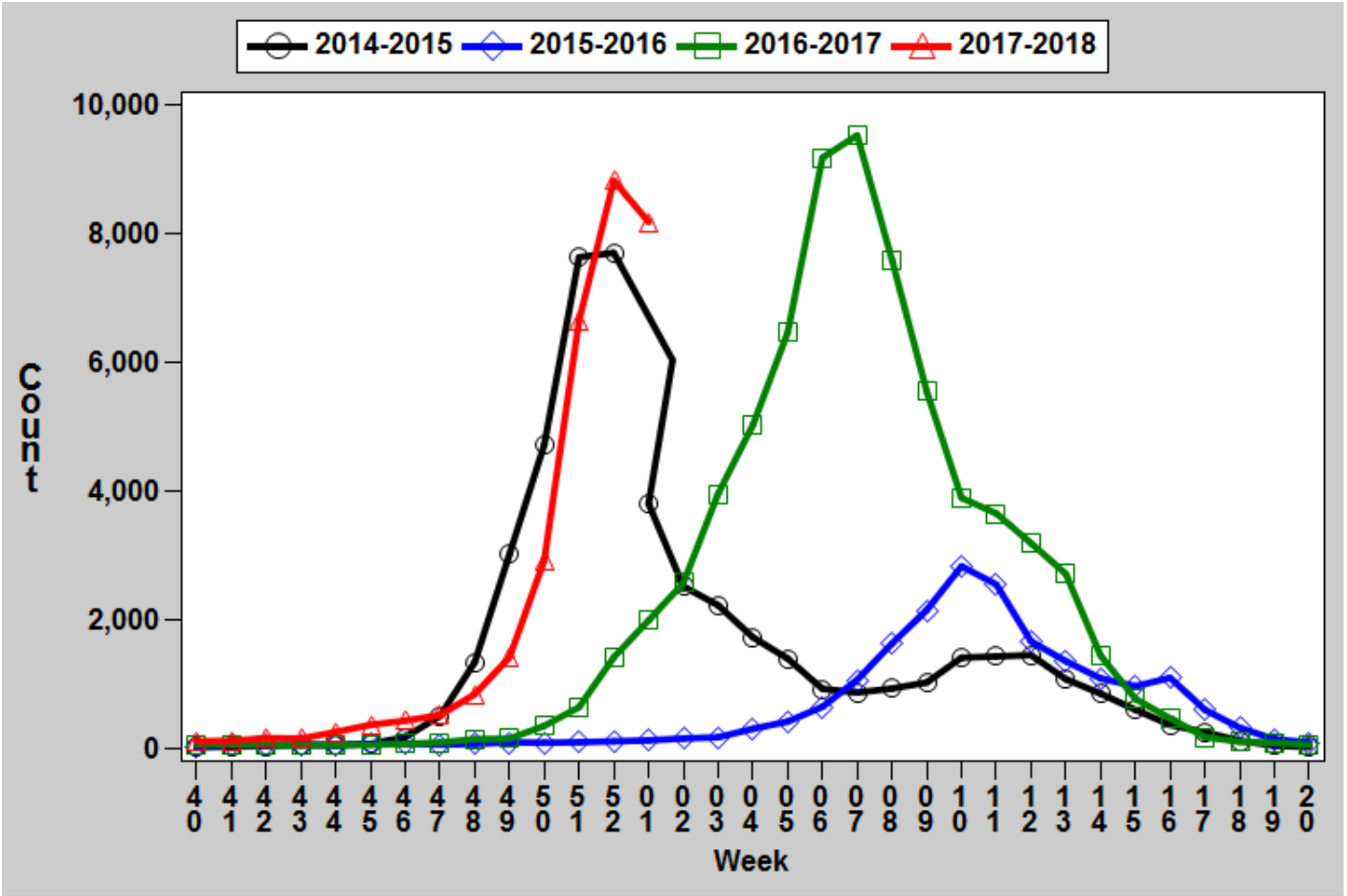
[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 3. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Region, Missouri, CDC Week 1 (December 31, 2017 – January 6, 2018)[*‡]

Region	Week 1 Cases	Week 1 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
Central	836	123.49	3,758	555.10
Eastern	3,332	147.03	12,361	545.46
Northwest	1,822	114.05	6,043	378.27
Southeast	789	167.27	3,848	815.77
Southwest	1,408	131.43	4,922	459.44
Total	8,187	134.57	30,932	508.44

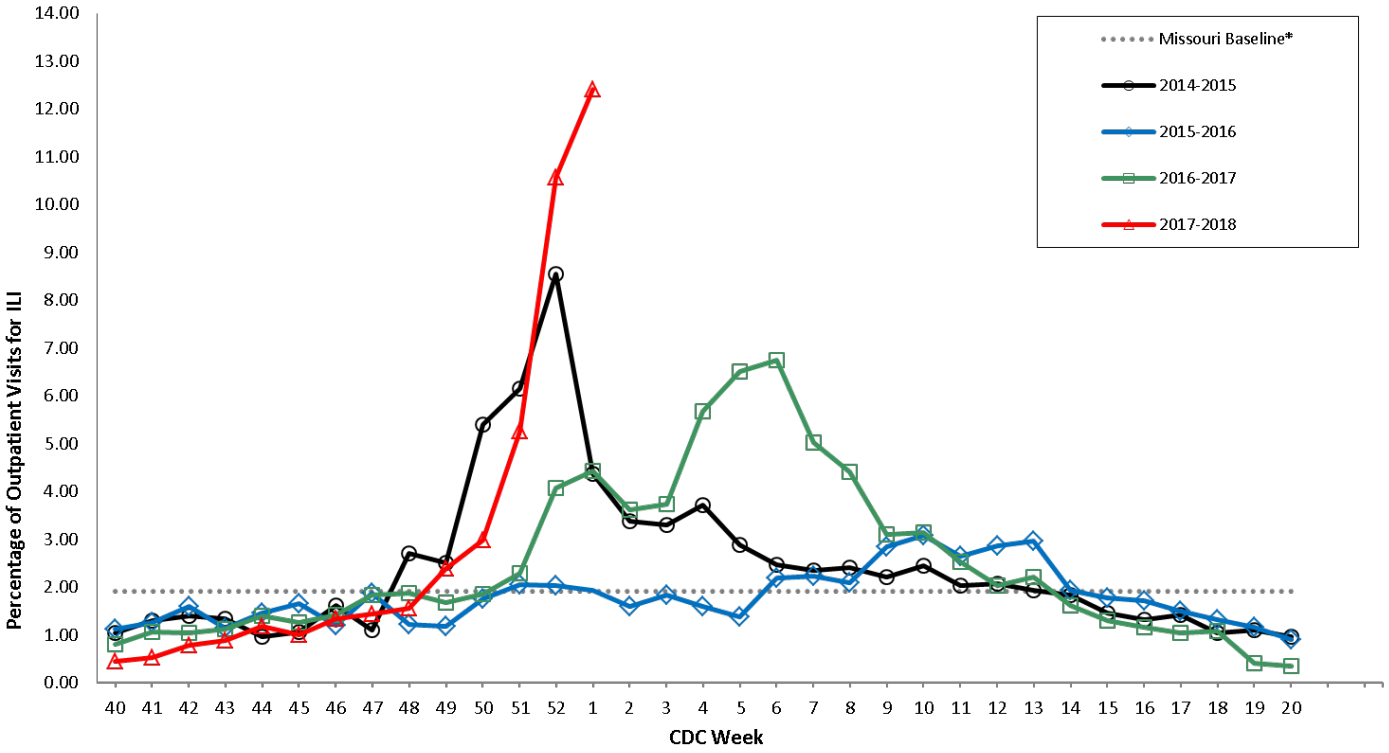
[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 4. Number of Laboratory-positive[†] Influenza Cases by CDC Week, Missouri, 2014-2018[*]



[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. Week 53, 2014-2015 flu season has 3,082 reported confirmed cases. Data Source: Missouri Health Information Surveillance System (WebSurv).

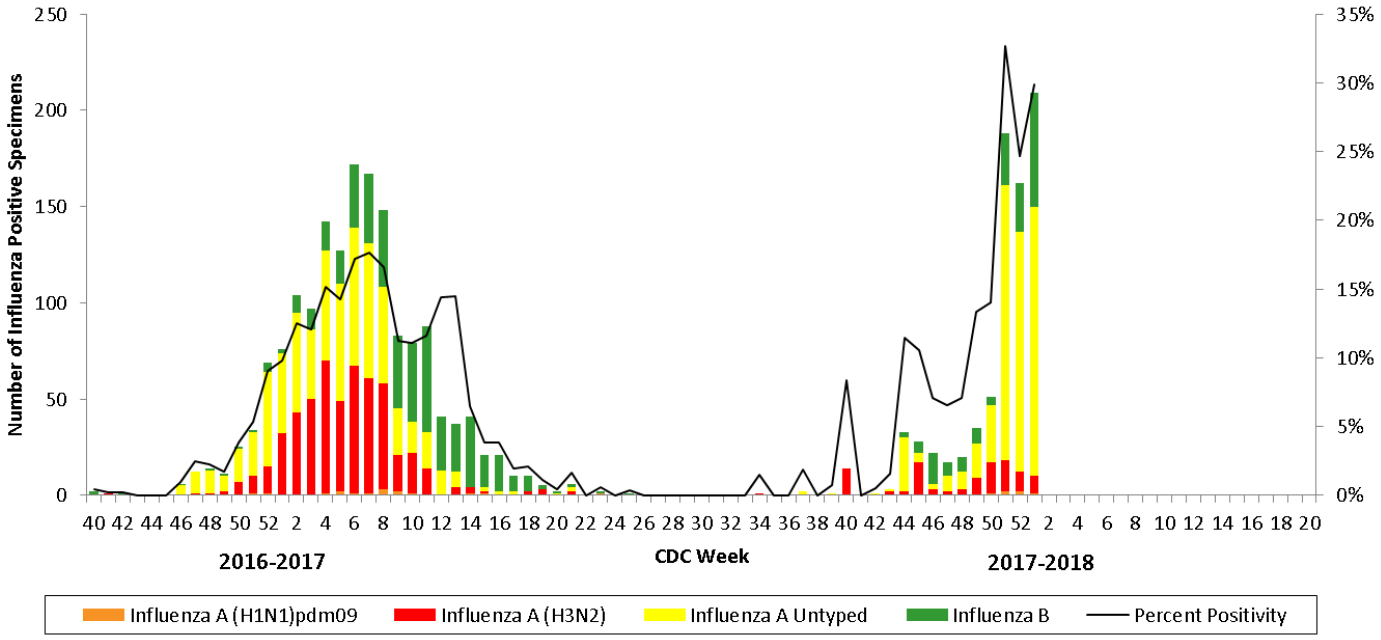
Figure 5. Percentage of Outpatient Visits for Influenza-like Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2014-2018*†



*The ILINet Region 7 (MO, IA, KS, NE) baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons, plus two standard deviations. A non-influenza week is defined as periods of two or more consecutive weeks in which each week accounted for less than 2% of the season's total number of specimens that tested positive for influenza.
Data Source: U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Centers for Disease Control and Prevention (CDC).

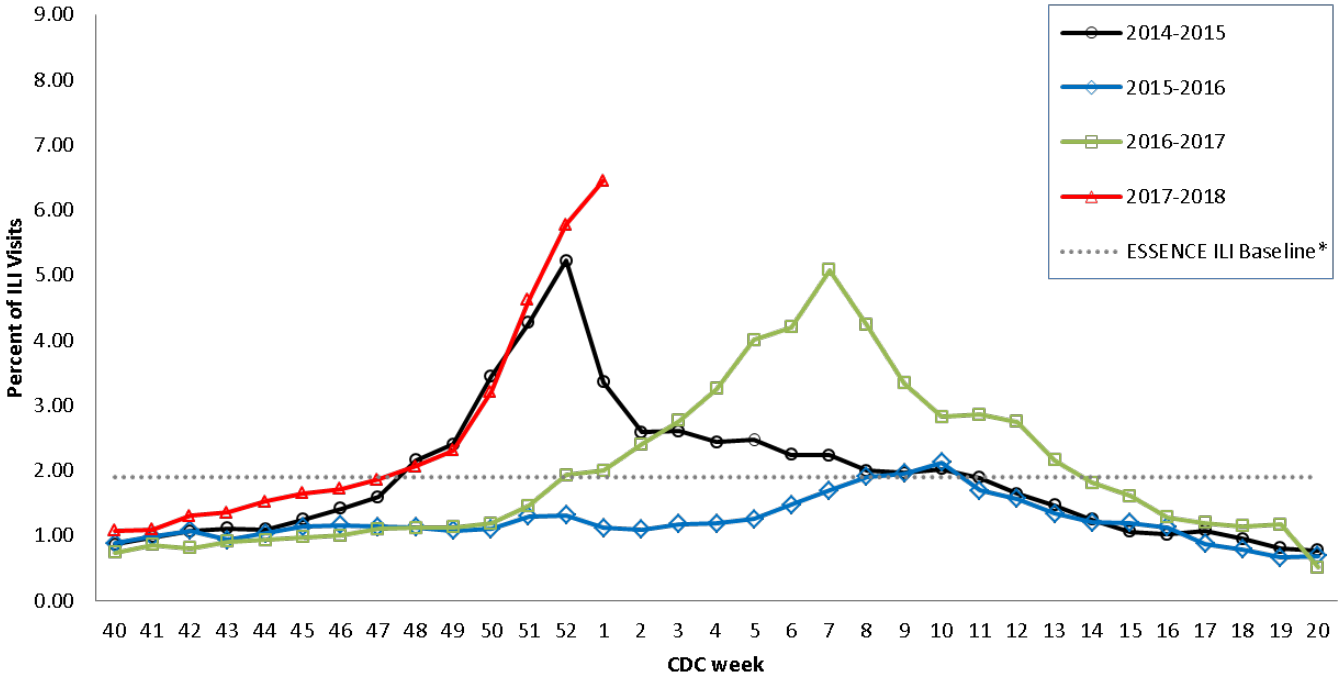
†2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of outpatient visits for ILI during Week 53 was 7.63.

Figure 6. Season-to-Date PCR (+) Tests for Influenza in Missouri



Data Source: National Respiratory and Enteric Virus Surveillance System (NREVSS), Centers for Disease Control and Prevention (CDC).
2016-2017 season-to-date through the week ending May 19, 2018 (Week 20).

Figure 7. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, 2014-2018 Influenza Seasons*†‡



*The ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2014-16) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
†The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of visits for ILI in ESSENCE participating hospitals during Week 53 was 4.38%.
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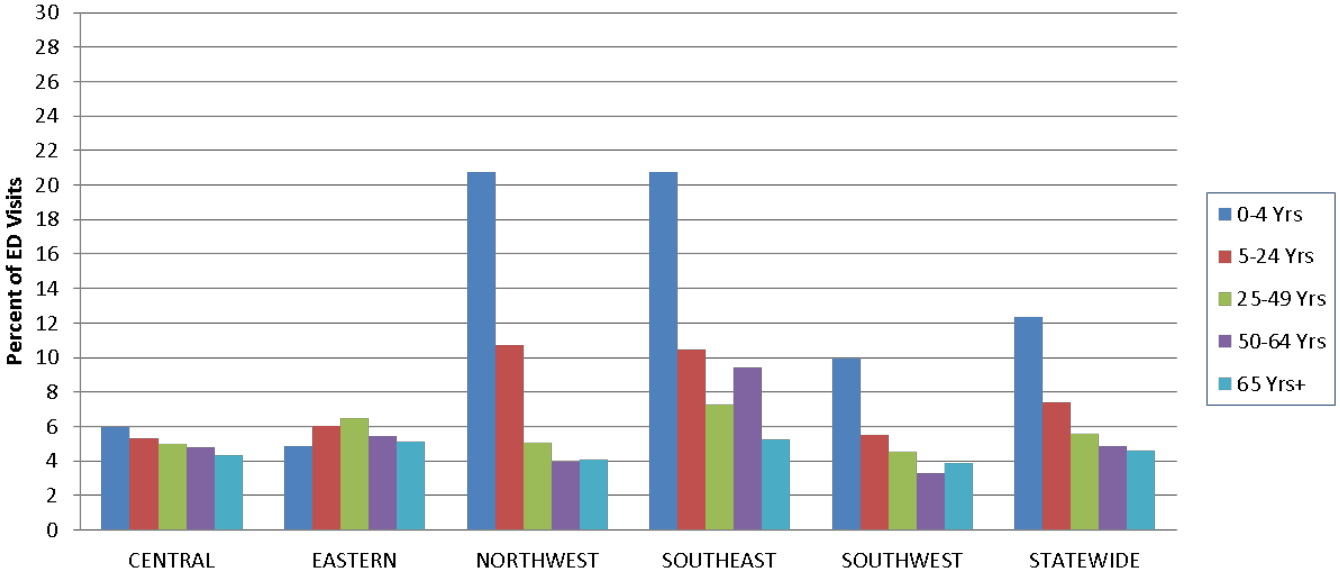
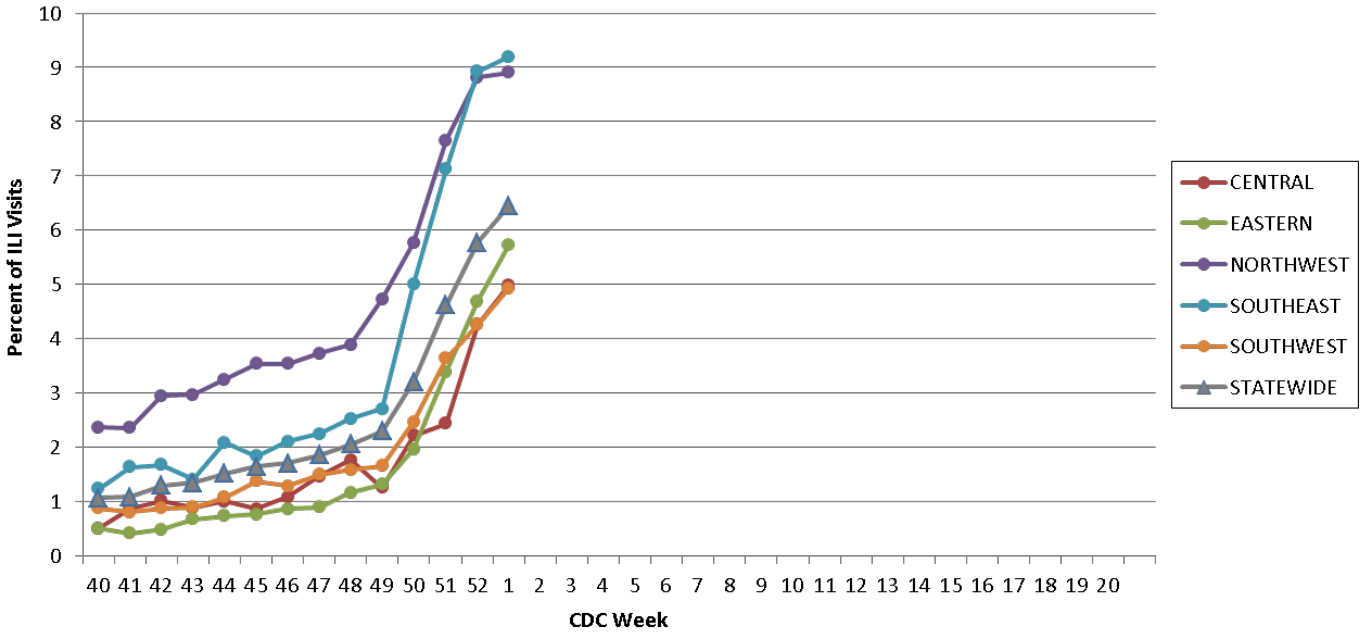


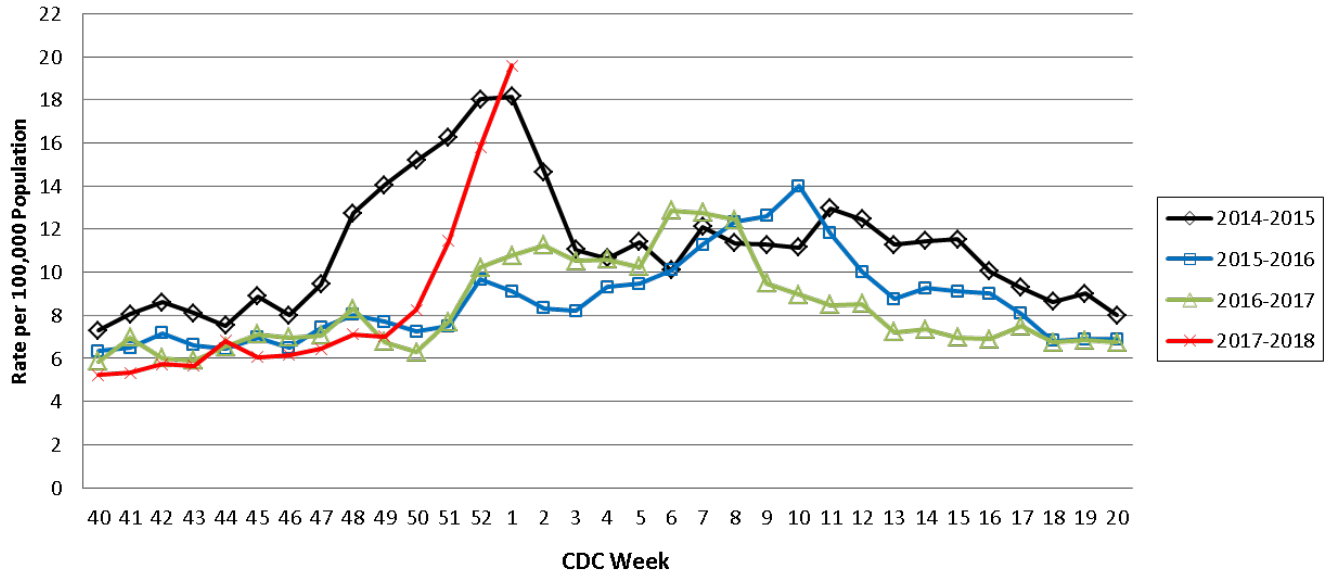
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 9. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Region and Statewide, 2017-2018 Influenza Season*



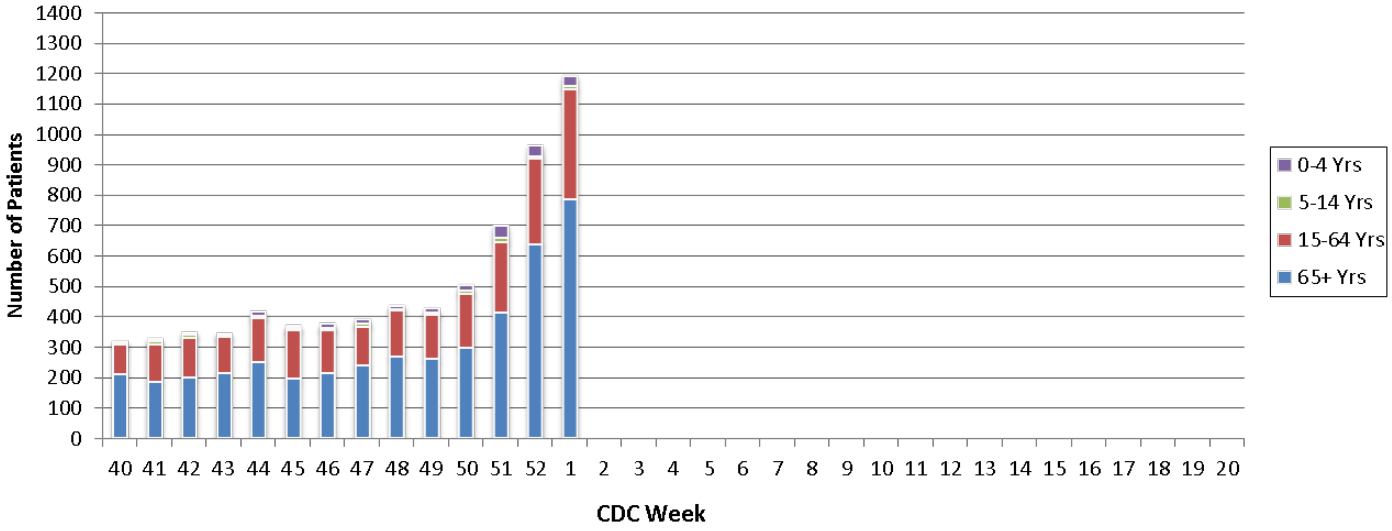
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 10. Weekly Rate of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Missouri Hospitals, 2014-2018 Influenza Seasons



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.
Population data from DHSS Population MICA 2015 (http://health.mo.gov/data/mica/mica/population.php).

Figure 11. Number of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Participating Missouri Hospitals, by Age Group, Week 1, 2017-2018 Influenza Season



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.

Additional Influenza Data Sources:

Centers for Disease Control and Prevention: National Influenza Surveillance (FluView):
http://www.cdc.gov/flu/weekly/fluactivitysurv.htm

The National Respiratory and Enteric Virus Surveillance System (NREVSS):
https://www.cdc.gov/surveillance/nrevss/

World Health Organization: International Influenza Surveillance:
http://www.who.int/influenza/surveillance_monitoring/en/

Missouri Weekly Influenza Surveillance Report
2017-2018 Influenza Season[1]

Week 2: January 7 – 13, 2018

All data are preliminary and may change as more reports are received.

Summary:

- The estimated influenza activity in Missouri is Widespread[2].

- During Week 2, a total of 8,022 laboratory-positive[3] influenza cases (6,379 influenza A, 1,558 influenza B, and 85 untyped) were reported. A season-to-date total of 40,600 laboratory-positive influenza cases (33,151 influenza A, 7,101 influenza B, and 348 untyped) have been reported in Missouri as of Week 2. The influenza type for reported season-to date cases includes 82% influenza A, 17% influenza B, and 1% untyped. Twenty-six laboratory-positive cases of influenza (21 influenza A (H3), three influenza A (H1N1), and two influenza B (Yamagata)) were reported by the Missouri State Public Health Laboratory (MSPHL) during Week 2.

- Influenza-like illness (ILI) activity was above baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 12.76% (Figure 5) and 6.68% (Figure 7) through ILINet and ESSENCE respectively.[4] The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution. The percentage of respiratory specimens testing positive for influenza in Missouri laboratories reporting to the National Respiratory and Enteric Virus Surveillance System (NREVSS) increased during Week 2 (Figure 6).

- Thirty-three influenza-associated deaths have been reported in Missouri as of Week 2.[5] During Week 1, 108 deaths involving Pneumonia and Influenza (P&I) were reported to the Bureau of Vital Records, resulting in a season-to-date total of 659 P&I associated deaths in Missouri.[6]

- Thirty-six outbreaks of influenza or ILI have been reported and four influenza or ILI-associated school closures have been reported in Missouri as of Week 2.

- Influenza activity increased in the U.S. during Week 1. National influenza surveillance information is prepared by CDC and is included in the weekly FluView report, which is available online at http://www.cdc.gov/flu/weekly/fluactivitysurv.htm.

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[1]The 2017-2018 influenza season begins CDC Week 40 (week ending October 7, 2017) and ends CDC Week 39 (week ending September 29, 2018).

[2]Widespread is defined as: Outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in at least half the regions of the state with recent laboratory evidence of influenza in the state.

[3]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

[4]Influenza-like illness (ILI) is defined by ILINet as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza. ILI is defined by ESSENCE as Emergency Department chief complaints for Influenza or (FeverPlus and (Cough or SoreThroat) and not NonILIFevers).

[5]All influenza-associated deaths became reportable in Missouri in 2016.

[6]The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

Surveillance Data:

Interactive Maps

The jurisdiction-specific influenza data are provided though interactive maps available at http://arcg.is/2rc3mXw. *Click on the jurisdiction to view the influenza data specific to that jurisdiction.*

- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, CDC Week 2**
- **Reported Week-specific Rate per 100,000 Population, CDC Week 2**
- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, Season-to-Date**
- **Reported Rate per 100,000 Population, Season-to-Date**

Data Figures

Figure 1. Number of Laboratory-positive† Influenza Cases by Influenza Type, Missouri, CDC Week 2 (January 7 – 13, 2018)*

Influenza Type	Week 52	Week 1	Week 2	2017-2018* Season-to-Date
Influenza A	7,850	7,655	6,379	33,151
Influenza B	1,331	1,682	1,558	7,101
Influenza Unknown Or Untyped	74	54	85	348
Total	9,255	9,391	8,022	40,600

†Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 2. Number of Laboratory-positive† Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 2 (January 7 – 13, 2018)*‡

Age Group	Week 2 Cases	Week 2 Rate‡	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate‡
00-04	1,182	315.74	5,960	1,592.05
05-24	2,291	142.78	12,484	778.05
25-49	1,695	88.58	8,462	442.23
50-64	1,260	101.91	6,095	492.97
65+	1,594	166.92	7,599	795.77
Total	8,022	131.86	40,600	667.36

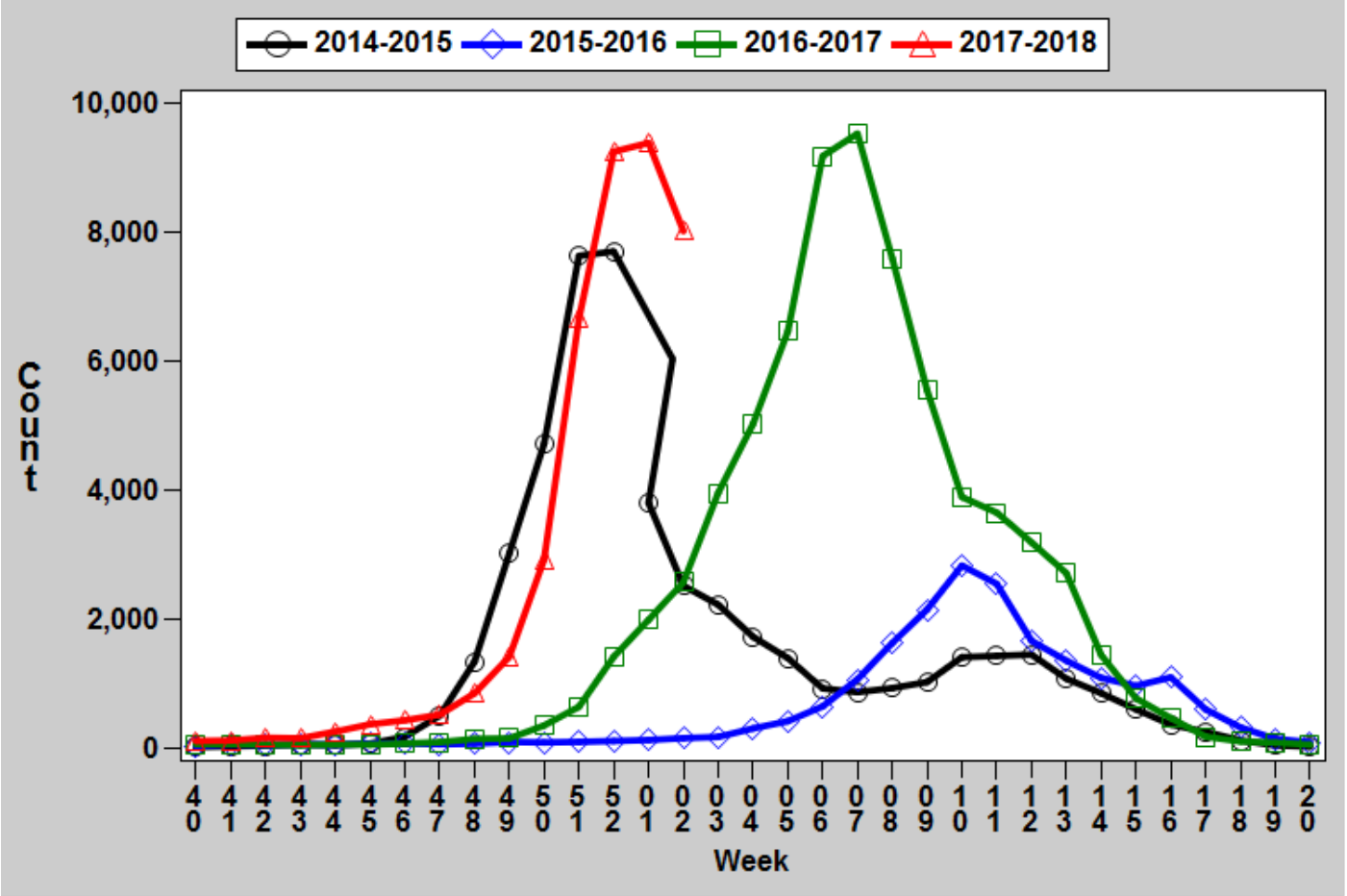
†Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
‡Incidence Rate per 100,000 population

Figure 3. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Region, Missouri, CDC Week 2 (January 7 – 13, 2018)[*‡]

Region	Week 2 Cases	Week 2 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
Central	752	111.08	4,756	702.51
Eastern	2,950	130.18	16,297	719.15
Northwest	2,091	130.89	8,305	519.87
Southeast	585	124.02	4,558	966.29
Southwest	1,644	153.46	6,684	623.91
Total	8,022	131.86	40,600	667.36

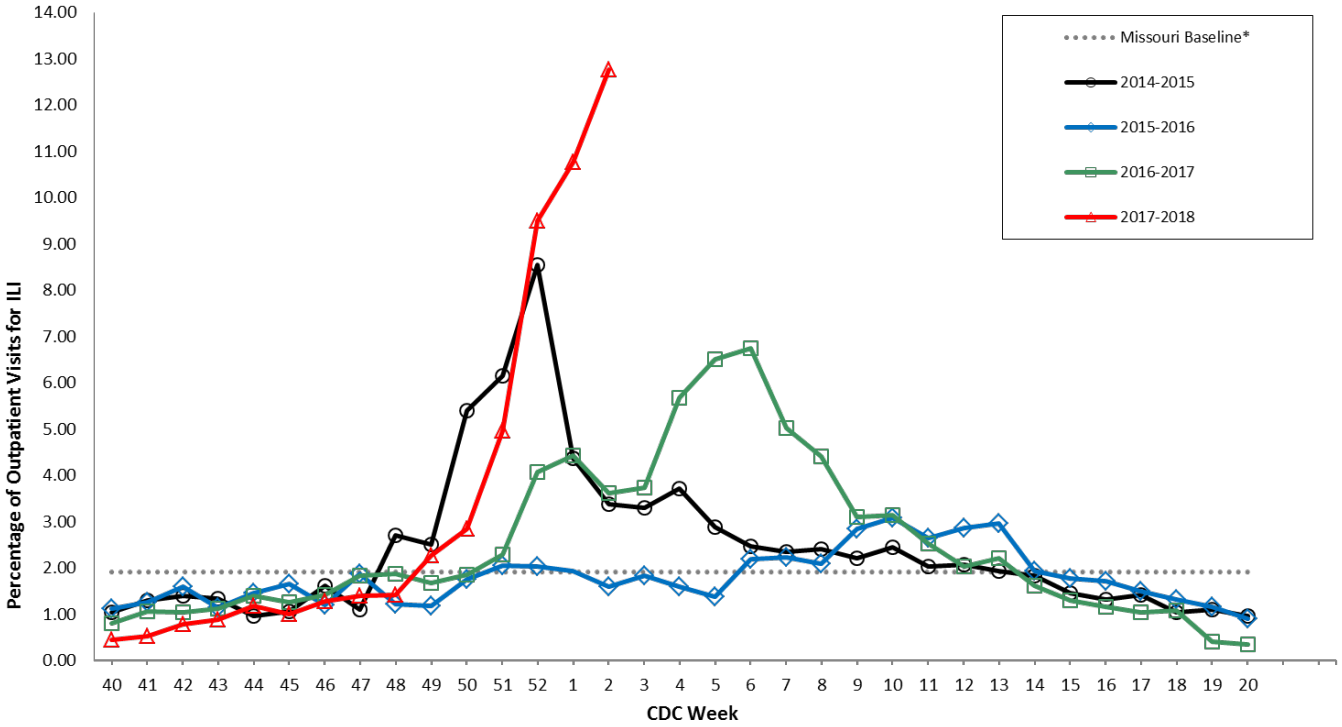
[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 4. Number of Laboratory-positive[†] Influenza Cases by CDC Week, Missouri, 2014-2018[*]



[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. Week 53, 2014-2015 flu season has 3,082 reported confirmed cases. Data Source: Missouri Health Information Surveillance System (WebSurv).

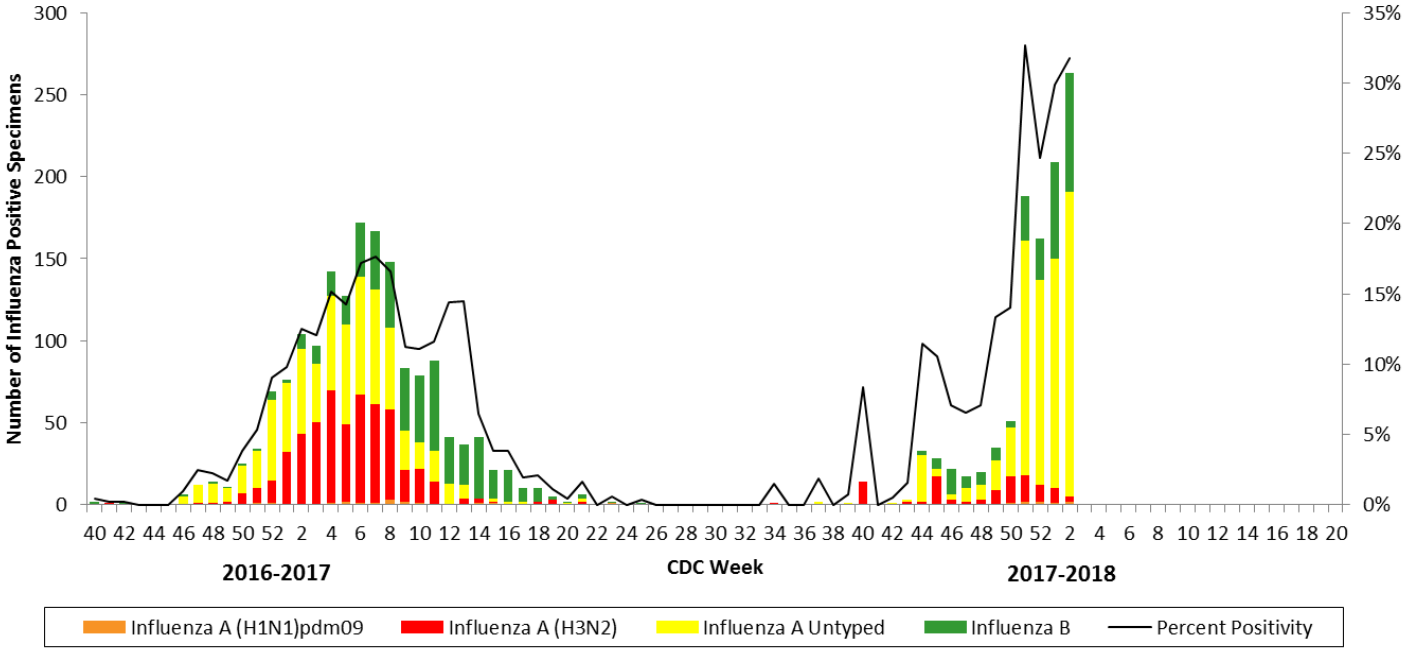
Figure 5. Percentage of Outpatient Visits for Influenza-like Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2014-2018*†



*The ILINet Region 7 (MO, IA, KS, NE) baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons, plus two standard deviations. A non-influenza week is defined as periods of two or more consecutive weeks in which each week accounted for less than 2% of the season's total number of specimens that tested positive for influenza.
Data Source: U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Centers for Disease Control and Prevention (CDC).

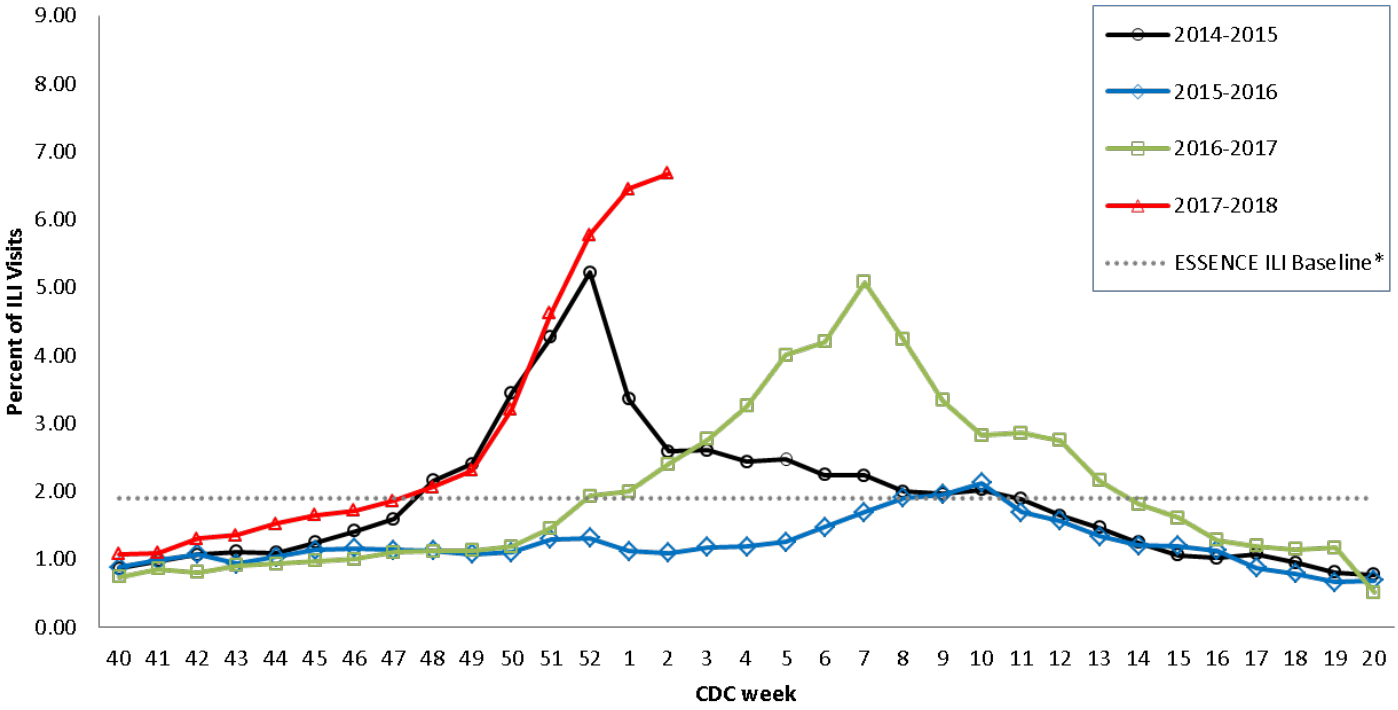
†2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of outpatient visits for ILI during Week 53 was 7.63.

Figure 6. Season-to-Date PCR (+) Tests for Influenza in Missouri



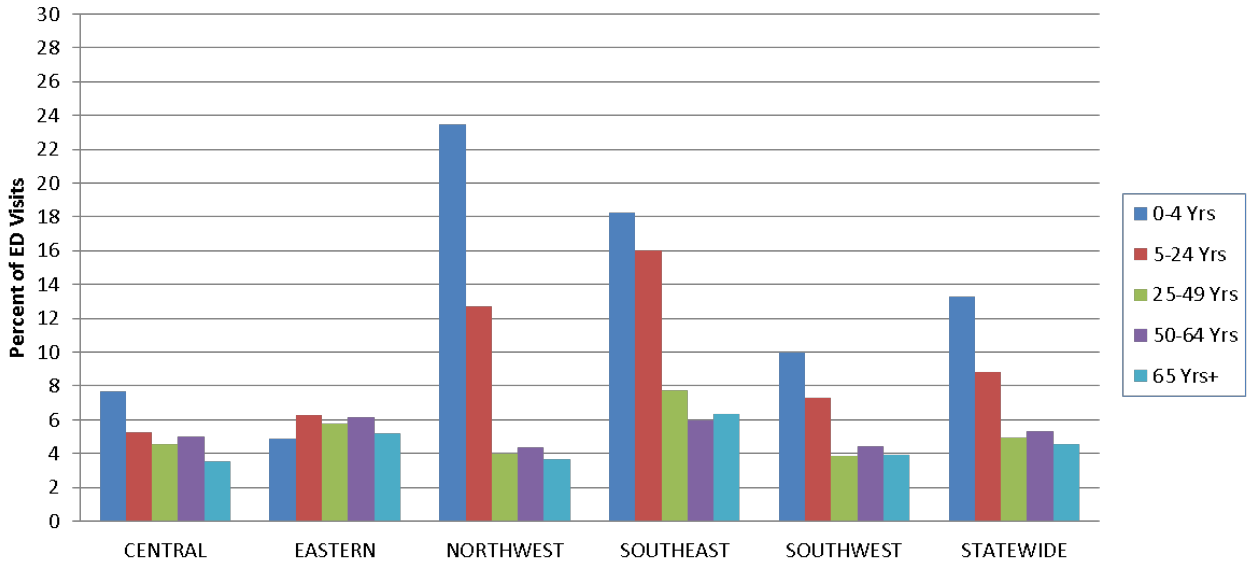
Data Source: National Respiratory and Enteric Virus Surveillance System (NREVSS), Centers for Disease Control and Prevention (CDC).
2016-2017 season-to-date through the week ending May 19, 2018 (Week 20).

Figure 7. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, 2014-2018 Influenza Seasons*†‡



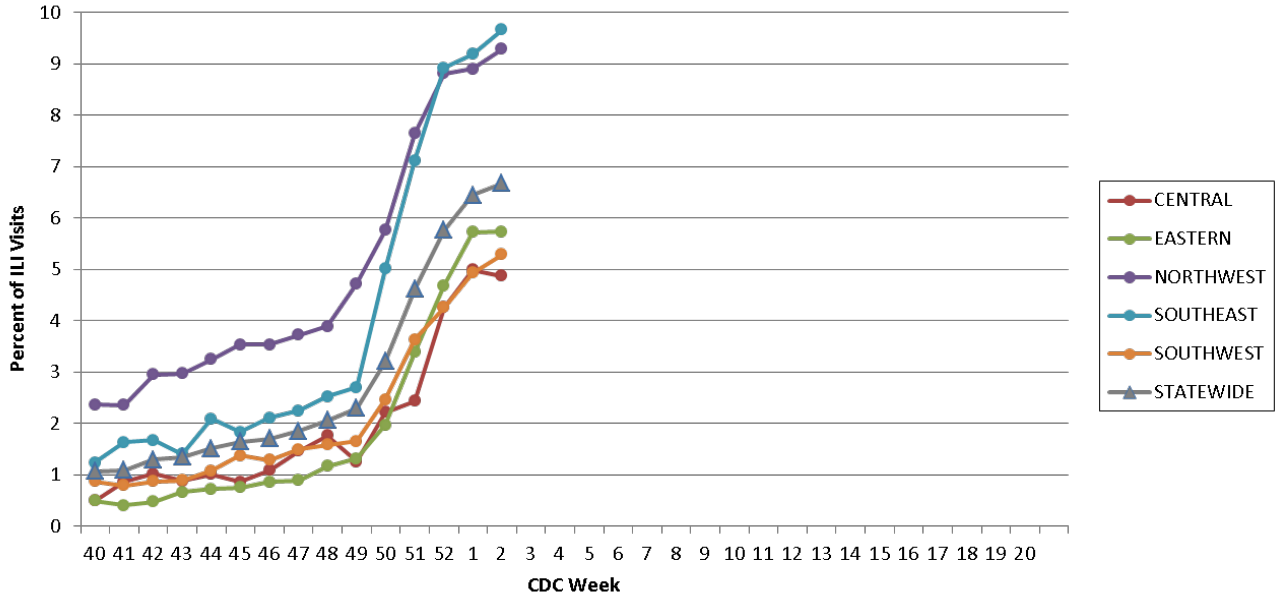
*The ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2014-16) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
†The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of visits for ILI in ESSENCE participating hospitals during Week 53 was 4.38%.
‡The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 8. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Age Group, Region and Statewide, Week 2, 2018*



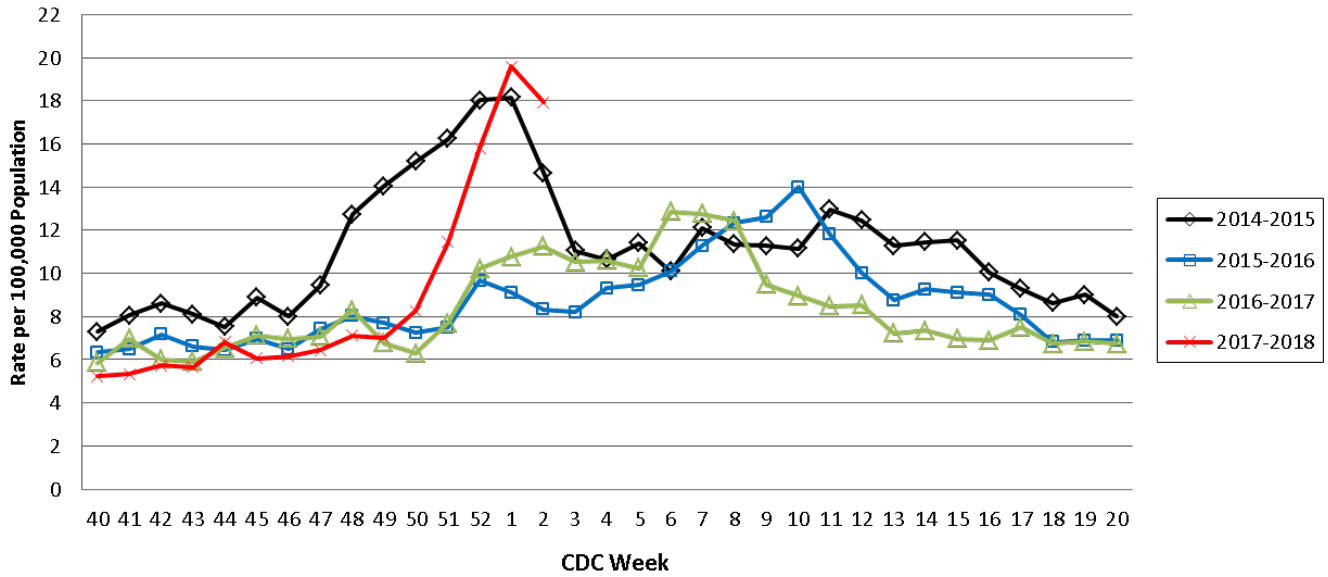
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 9. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Region and Statewide, 2017-2018 Influenza Season*



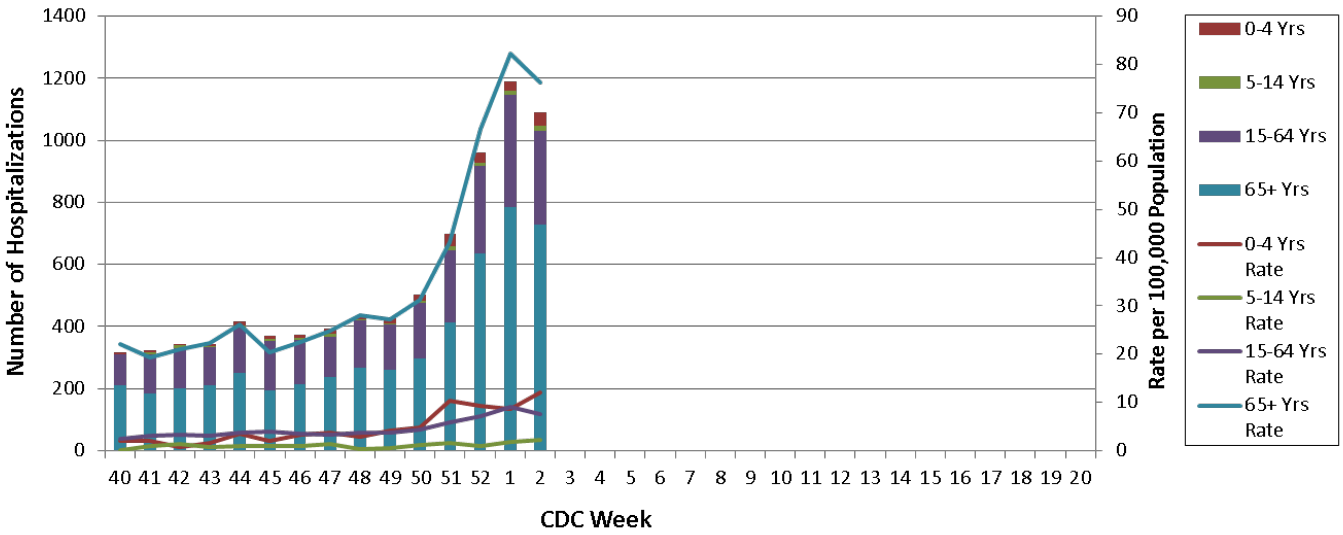
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 10. Weekly Rate of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Missouri Hospitals, 2014-2018 Influenza Seasons



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.
Population data from DHSS Population MICA 2015 (http://health.mo.gov/data/mica/mica/population.php).

Figure 11. Number of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Participating Missouri Hospitals, by Age Group, Week 2, 2017-2018 Influenza Season



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.

Additional Influenza Data Sources:

Centers for Disease Control and Prevention: National Influenza Surveillance (FluView):
http://www.cdc.gov/flu/weekly/fluactivitysurv.htm

The National Respiratory and Enteric Virus Surveillance System (NREVSS):
https://www.cdc.gov/surveillance/nrevss/

World Health Organization: International Influenza Surveillance:
http://www.who.int/influenza/surveillance_monitoring/en/

Missouri Weekly Influenza Surveillance Report
2017-2018 Influenza Season[1]

Week 3: January 14 – 20, 2018

All data are preliminary and may change as more reports are received.

Summary:

- The estimated influenza activity in Missouri is Widespread[2].

- During Week 3, a total of 8,260 laboratory-positive[3] influenza cases (5,983 influenza A, 2,193 influenza B, and 84 untyped) were reported. A season-to-date total of 53,769 laboratory-positive influenza cases (42,965 influenza A, 10,306 influenza B, and 498 untyped) have been reported in Missouri as of Week 3. The influenza type for reported season-to date cases includes 80% influenza A, 19% influenza B, and 1% untyped. Twenty-three laboratory-positive cases of influenza (17 influenza A (H3), one influenza A (H1N1), and five influenza B (Yamagata)) were reported by the Missouri State Public Health Laboratory (MSPHL) during Week 3.

- Influenza-like illness (ILI) activity was above baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 11.36% (Figure 5) and 6.97% (Figure 7) through ILINet and ESSENCE respectively.[4] The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution. The percentage of respiratory specimens testing positive for influenza in Missouri laboratories reporting to the National Respiratory and Enteric Virus Surveillance System (NREVSS) decreased during Week 3 (Figure 6).

- Forty-nine influenza-associated deaths have been reported in Missouri as of Week 3.[5] During Week 2, 108 deaths involving Pneumonia and Influenza (P&I) were reported to the Bureau of Vital Records, resulting in a season-to-date total of 767 P&I associated deaths in Missouri.[6]

- Forty-eight outbreaks of influenza or ILI have been reported and five influenza or ILI-associated school closures have been reported in Missouri as of Week 3.

- Influenza activity increased in the U.S. during Week 2. National influenza surveillance information is prepared by CDC and is included in the weekly FluView report, which is available online at http://www.cdc.gov/flu/weekly/fluactivitysurv.htm.

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[1]The 2017-2018 influenza season begins CDC Week 40 (week ending October 7, 2017) and ends CDC Week 39 (week ending September 29, 2018).

[2]Widespread is defined as: Outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in at least half the regions of the state with recent laboratory evidence of influenza in the state.

[3]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

[4]Influenza-like illness (ILI) is defined by ILINet as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza. ILI is defined by ESSENCE as Emergency Department chief complaints for Influenza or (FeverPlus and (Cough or SoreThroat) and not NonILIFevers).

[5]All influenza-associated deaths became reportable in Missouri in 2016.

[6]The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

Surveillance Data:

Interactive Maps

The jurisdiction-specific influenza data are provided though interactive maps available at http://arcg.is/15mPvK. *Click on the jurisdiction to view the influenza data specific to that jurisdiction.*

- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, CDC Week 3**
- **Reported Week-specific Rate per 100,000 Population, CDC Week 3**
- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, Season-to-Date**
- **Reported Rate per 100,000 Population, Season-to-Date**

Data Figures

Figure 1. Number of Laboratory-positive† Influenza Cases by Influenza Type, Missouri, CDC Week 3 (January 14 – 20, 2018)*

Influenza Type	Week 1	Week 2	Week 3	2017-2018* Season-to-Date
Influenza A	8,555	9,703	5,983	42,965
Influenza B	1,778	2,482	2,193	10,306
Influenza Unknown Or Untyped	57	148	84	498
Total	10,390	12,333	8,260	53,769

†Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 2. Number of Laboratory-positive† Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 3 (January 14 – 20, 2018)*‡

Age Group	Week 3 Cases	Week 3 Rate‡	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate‡
00-04	1,362	363.82	8,150	2,177.05
05-24	2,845	177.31	16,595	1,034.27
25-49	1,712	89.47	11,315	591.32
50-64	1,204	97.38	8,149	659.10
65+	1,137	119.07	9,560	1,001.13
Total	8,260	135.77	53,769	883.82

†Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
‡Incidence Rate per 100,000 population

Figure 3. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Region, Missouri, CDC Week 3 (January 14 – 20, 2018)[*‡]

Region	Week 3 Cases	Week 3 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
Central	942	139.14	6,792	1,003.25
Eastern	2,467	108.86	19,910	878.58
Northwest	2,206	138.09	11,500	719.87
Southeast	1,053	223.24	6,751	1,431.21
Southwest	1,592	148.60	8,816	822.93
Total	8,260	135.77	53,769	883.82

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
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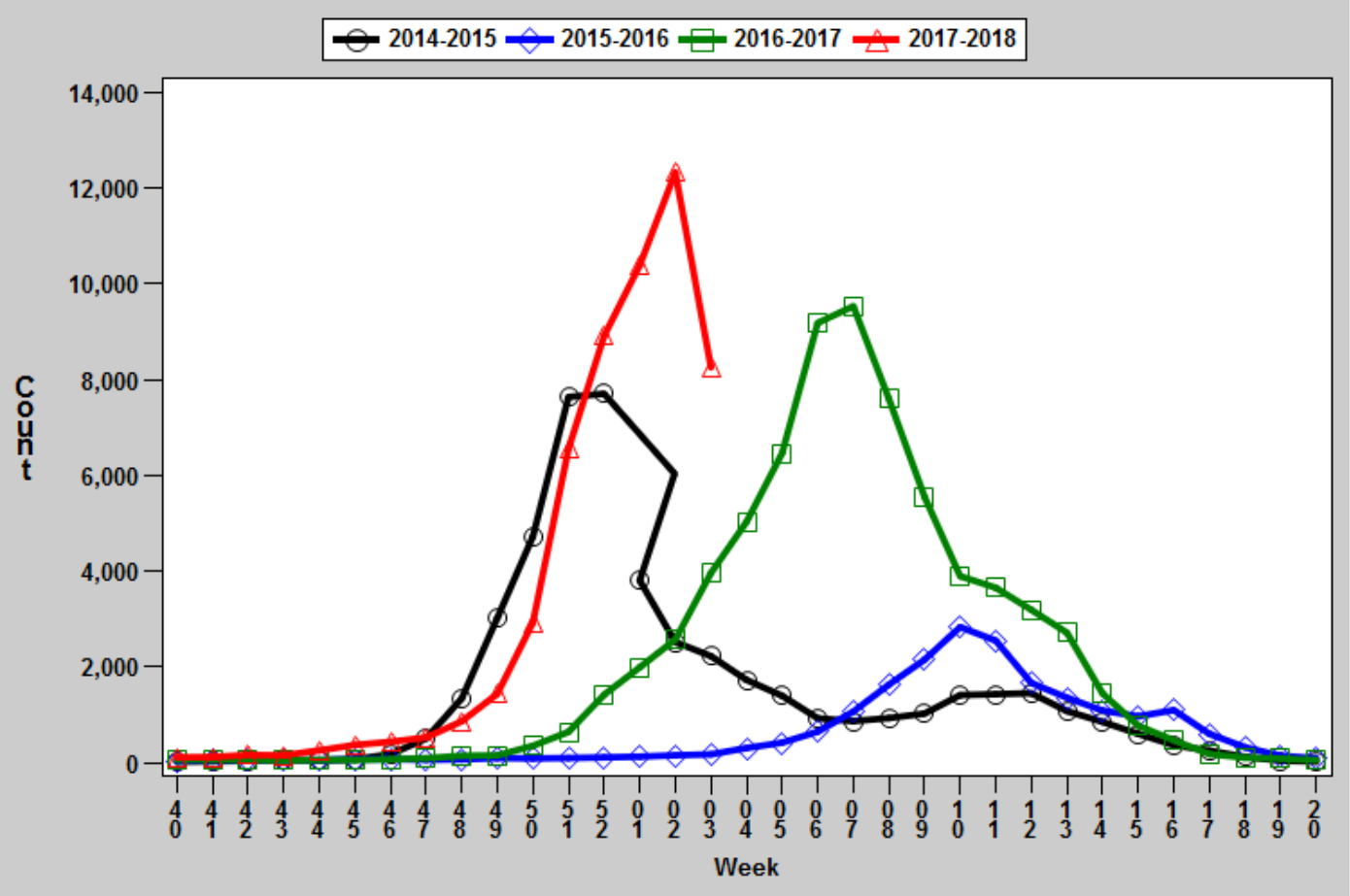
[‡]Incidence Rate per 100,000 population

Figure 4. Number of Laboratory-positive[†] Influenza Cases by CDC Week, Missouri, 2014-2018[*]



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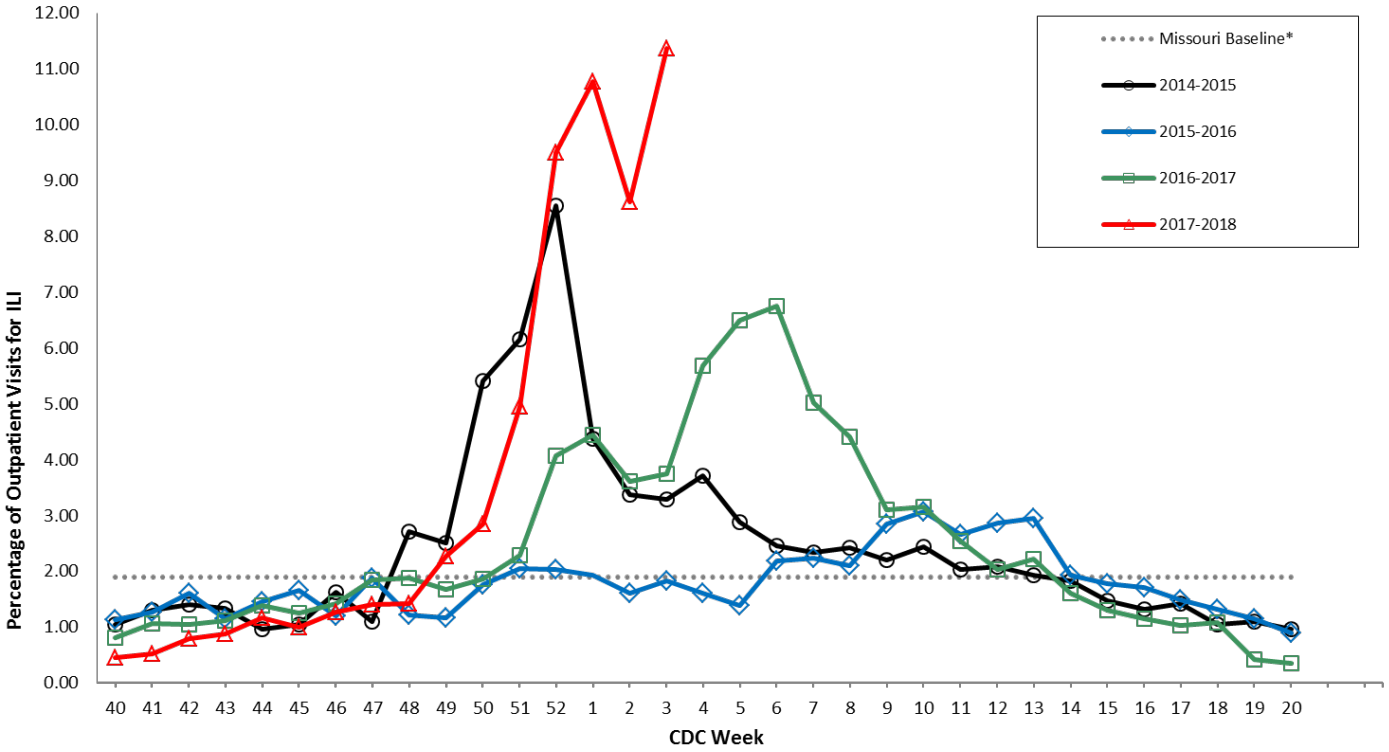
[*]2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. Week 53, 2014-2015 flu season has 3,082 reported confirmed cases. Data Source: Missouri Health Information Surveillance System (WebSurv).

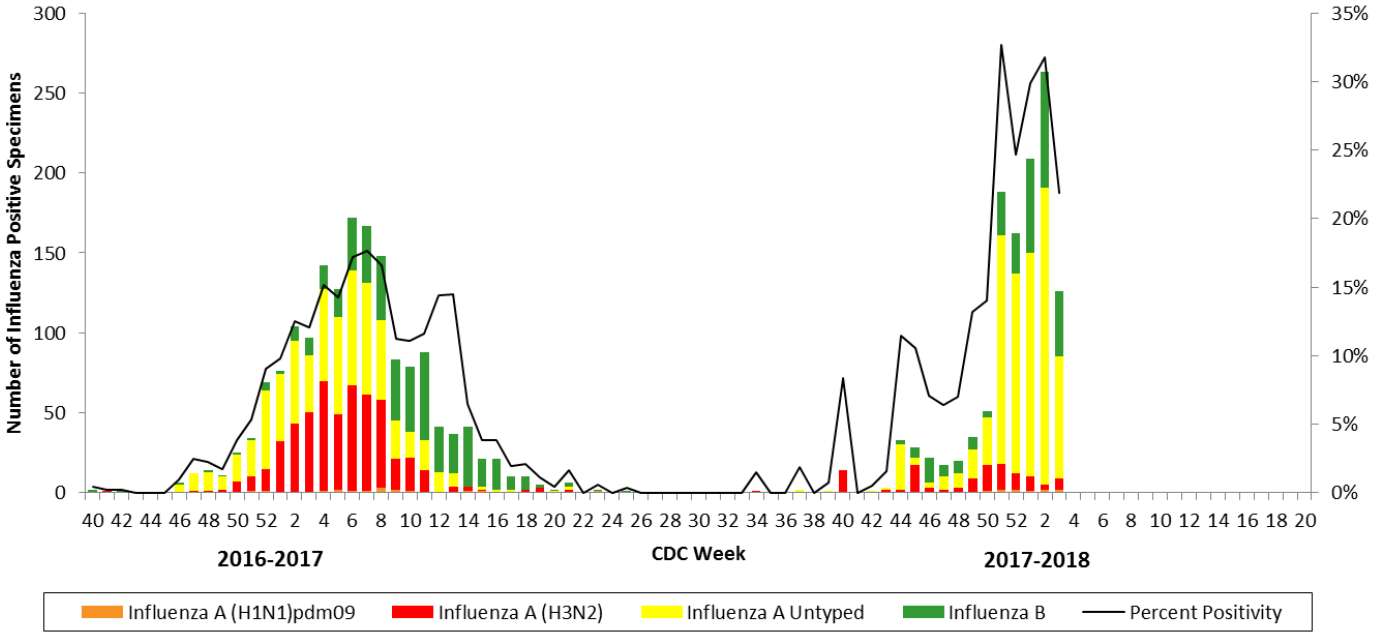
Figure 5. Percentage of Outpatient Visits for Influenza-like Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2014-2018*†



*The ILINet Region 7 (MO, IA, KS, NE) baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons, plus two standard deviations. A non-influenza week is defined as periods of two or more consecutive weeks in which each week accounted for less than 2% of the season's total number of specimens that tested positive for influenza.
Data Source: U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Centers for Disease Control and Prevention (CDC).

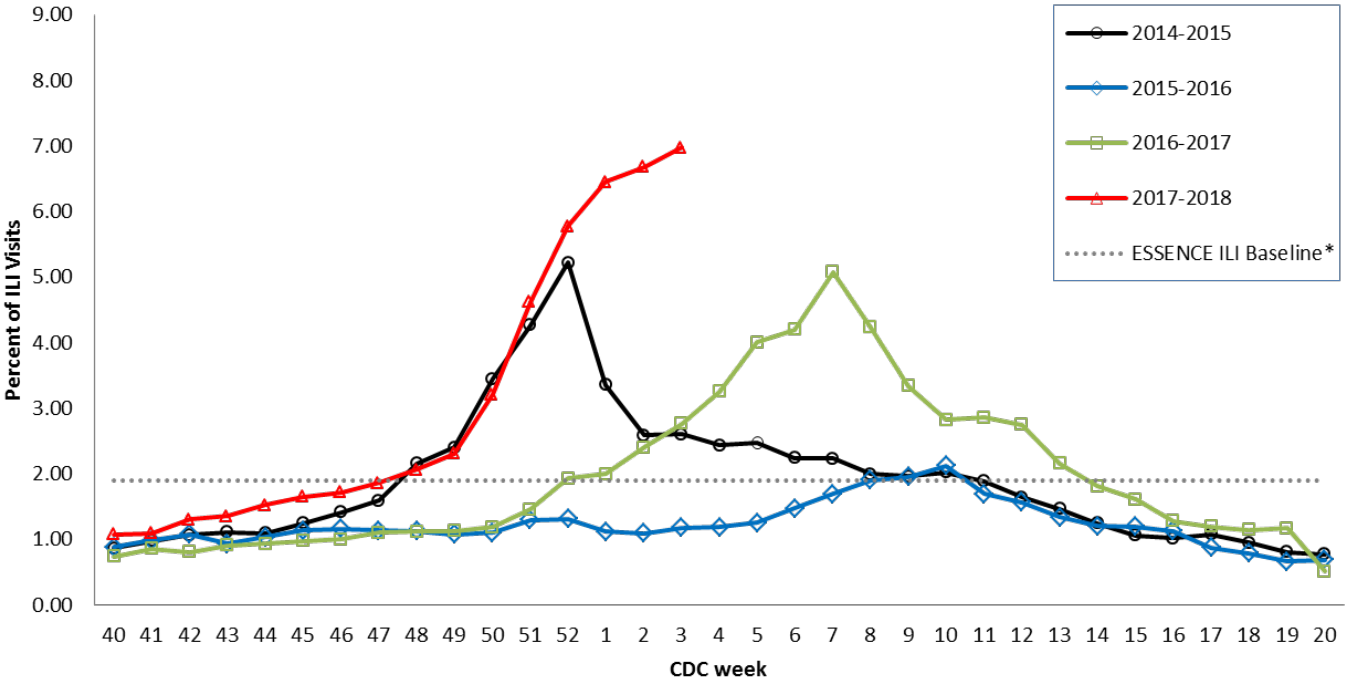
†2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of outpatient visits for ILI during Week 53 was 7.63.

Figure 6. Season-to-Date PCR (+) Tests for Influenza in Missouri



Data Source: National Respiratory and Enteric Virus Surveillance System (NREVSS), Centers for Disease Control and Prevention (CDC).
2016-2017 season-to-date through the week ending May 19, 2018 (Week 20).

Figure 7. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, 2014-2018 Influenza Seasons*†‡



*The ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2014-16) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
†The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of visits for ILI in ESSENCE participating hospitals during Week 53 was 4.38%.
‡The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

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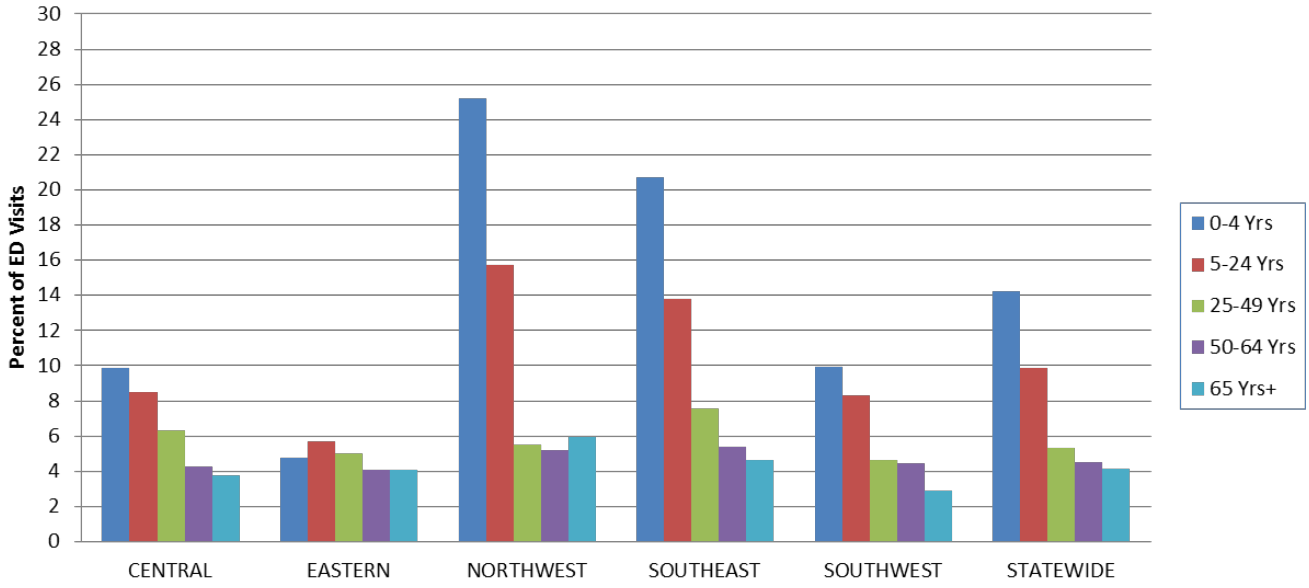
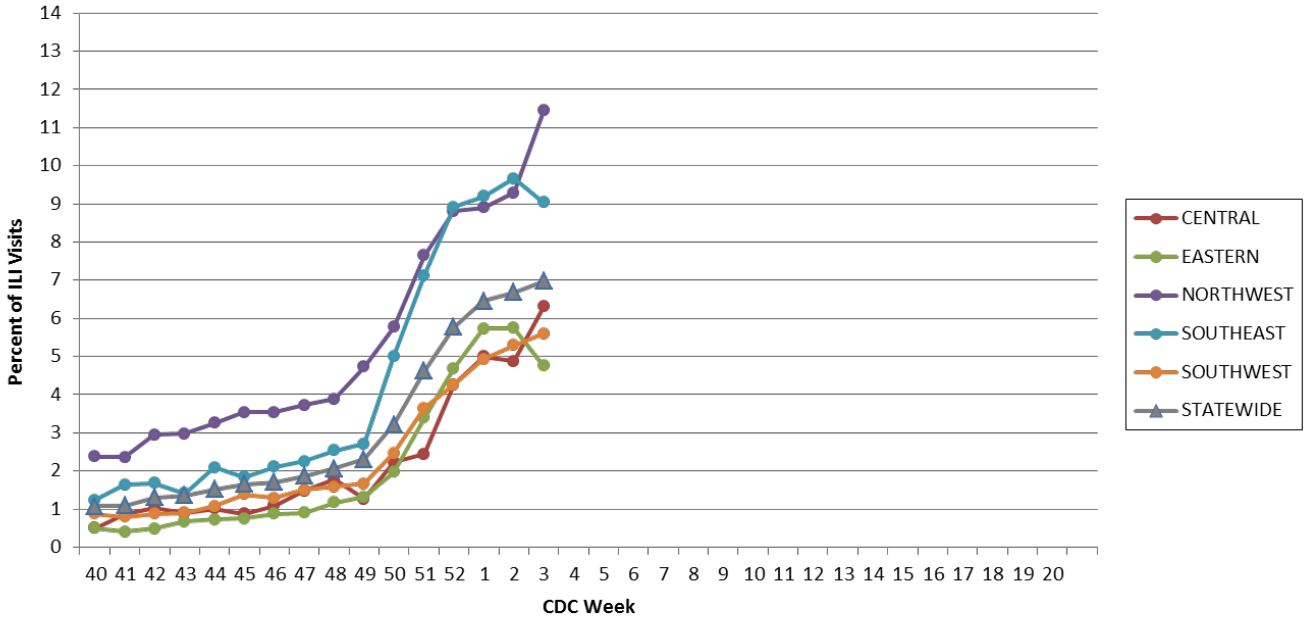


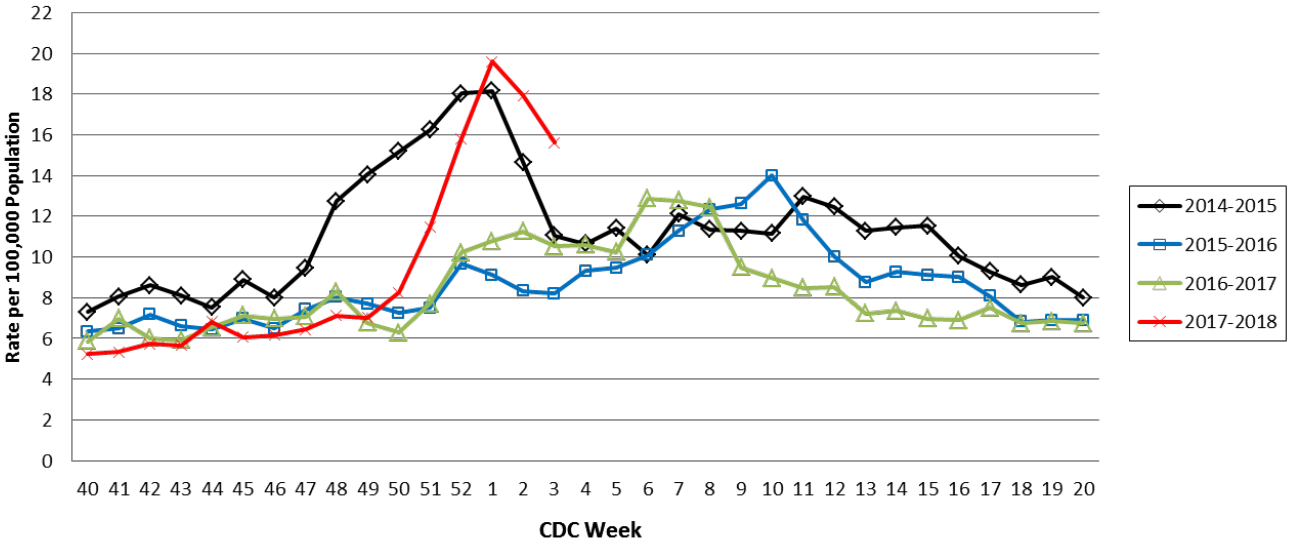
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 9. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Region and Statewide, 2017-2018 Influenza Season*



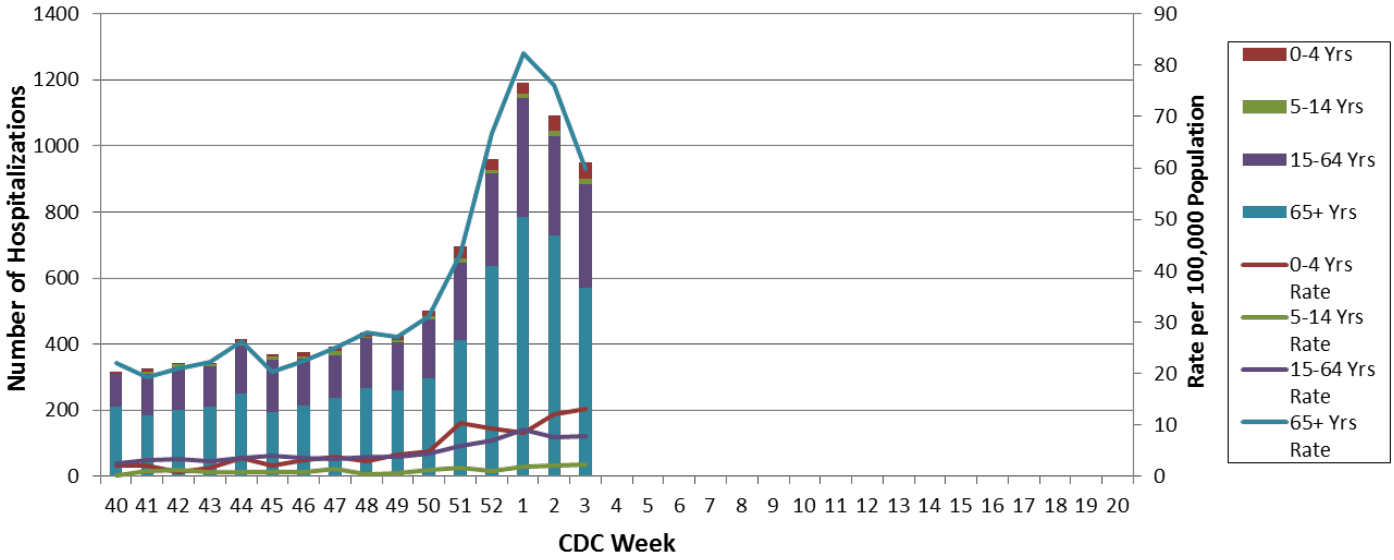
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 10. Weekly Rate of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Missouri Hospitals, 2014-2018 Influenza Seasons



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.
Population data from DHSS Population MICA 2015 (http://health.mo.gov/data/mica/mica/population.php).

Figure 11. Number of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Participating Missouri Hospitals, by Age Group, Week 3, 2017-2018 Influenza Season



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.

Additional Influenza Data Sources:

Centers for Disease Control and Prevention: National Influenza Surveillance (FluView):
http://www.cdc.gov/flu/weekly/fluactivitysurv.htm

The National Respiratory and Enteric Virus Surveillance System (NREVSS):
https://www.cdc.gov/surveillance/nrevss/

World Health Organization: International Influenza Surveillance:
http://www.who.int/influenza/surveillance_monitoring/en/

Missouri Weekly Influenza Surveillance Report
2017-2018 Influenza Season[1]

Week 4: January 21 – 27, 2018

All data are preliminary and may change as more reports are received.

Summary:

- The estimated influenza activity in Missouri is Widespread[2].

- During Week 4, a total of 9,566 laboratory-positive[3] influenza cases (6,416 influenza A, 2,955 influenza B, and 195 untyped) were reported. A season-to-date total of 66,373 laboratory-positive influenza cases (51,542 influenza A, 14,007 influenza B, and 824 untyped) have been reported in Missouri as of Week 4. The influenza type for reported season-to date cases includes 78% influenza A, 21% influenza B, and 1% untyped. Thirty-five laboratory-positive cases of influenza (21 influenza A (H3), two influenza A (H1N1), and twelve influenza B (Yamagata)) were reported by the Missouri State Public Health Laboratory (MSPHL) during Week 4.

- Influenza-like illness (ILI) activity was above baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 10.35% (Figure 5) and 7.01% (Figure 7) through ILINet and ESSENCE respectively.[4] The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution. The percentage of respiratory specimens testing positive for influenza in Missouri laboratories reporting to the National Respiratory and Enteric Virus Surveillance System (NREVSS) slightly increased during Week 4 (Figure 6).

- Seventy-four influenza-associated deaths have been reported in Missouri as of Week 4.[5] During Week 3, 121 deaths involving Pneumonia and Influenza (P&I) were reported to the Bureau of Vital Records, resulting in a season-to-date total of 888 P&I associated deaths in Missouri.[6]

- Fifty-four outbreaks of influenza or ILI have been reported and six influenza or ILI-associated school closures have been reported in Missouri as of Week 4.

- Influenza activity increased in the U.S. during Week 3. National influenza surveillance information is prepared by CDC and is included in the weekly FluView report, which is available online at http://www.cdc.gov/flu/weekly/fluactivitysurv.htm.

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[1]The 2017-2018 influenza season begins CDC Week 40 (week ending October 7, 2017) and ends CDC Week 39 (week ending September 29, 2018).

[2]Widespread is defined as: Outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in at least half the regions of the state with recent laboratory evidence of influenza in the state.

[3]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

[4]Influenza-like illness (ILI) is defined by ILINet as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza. ILI is defined by ESSENCE as Emergency Department chief complaints for Influenza or (FeverPlus and (Cough or SoreThroat) and not NonILIFevers).

[5]All influenza-associated deaths became reportable in Missouri in 2016.

[6]The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

Surveillance Data:

Interactive Maps

The jurisdiction-specific influenza data are provided though interactive maps available at http://arcg.is/1uf115. *Click on the jurisdiction to view the influenza data specific to that jurisdiction.*

- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, CDC Week 4**
- **Reported Week-specific Rate per 100,000 Population, CDC Week 4**
- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, Season-to-Date**
- **Reported Rate per 100,000 Population, Season-to-Date**

Data Figures

Figure 1. Number of Laboratory-positive[†] Influenza Cases by Influenza Type, Missouri, CDC Week 4 (January 21 – 27, 2018)[*]

Influenza Type	Week 2	Week 3	Week 4	2017-2018* Season-to-Date
Influenza A	9,965	7,378	6,416	51,542
Influenza B	2,569	2,762	2,955	14,007
Influenza Unknown Or Untyped	174	171	195	824
Total	12,708	10,311	9,566	66,373

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 2. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 4 (January 21 – 27, 2018)[*‡]

Age Group	Week 4 Cases	Week 4 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
00-04	1,638	437.55	10,287	2,747.89
05-24	3,556	221.62	21,146	1,317.91
25-49	1,825	95.37	13,740	718.06
50-64	1,309	105.87	9,931	803.24
65+	1,238	129.64	11,269	1,180.10
Total	9,566	157.24	66,373	1,091.00

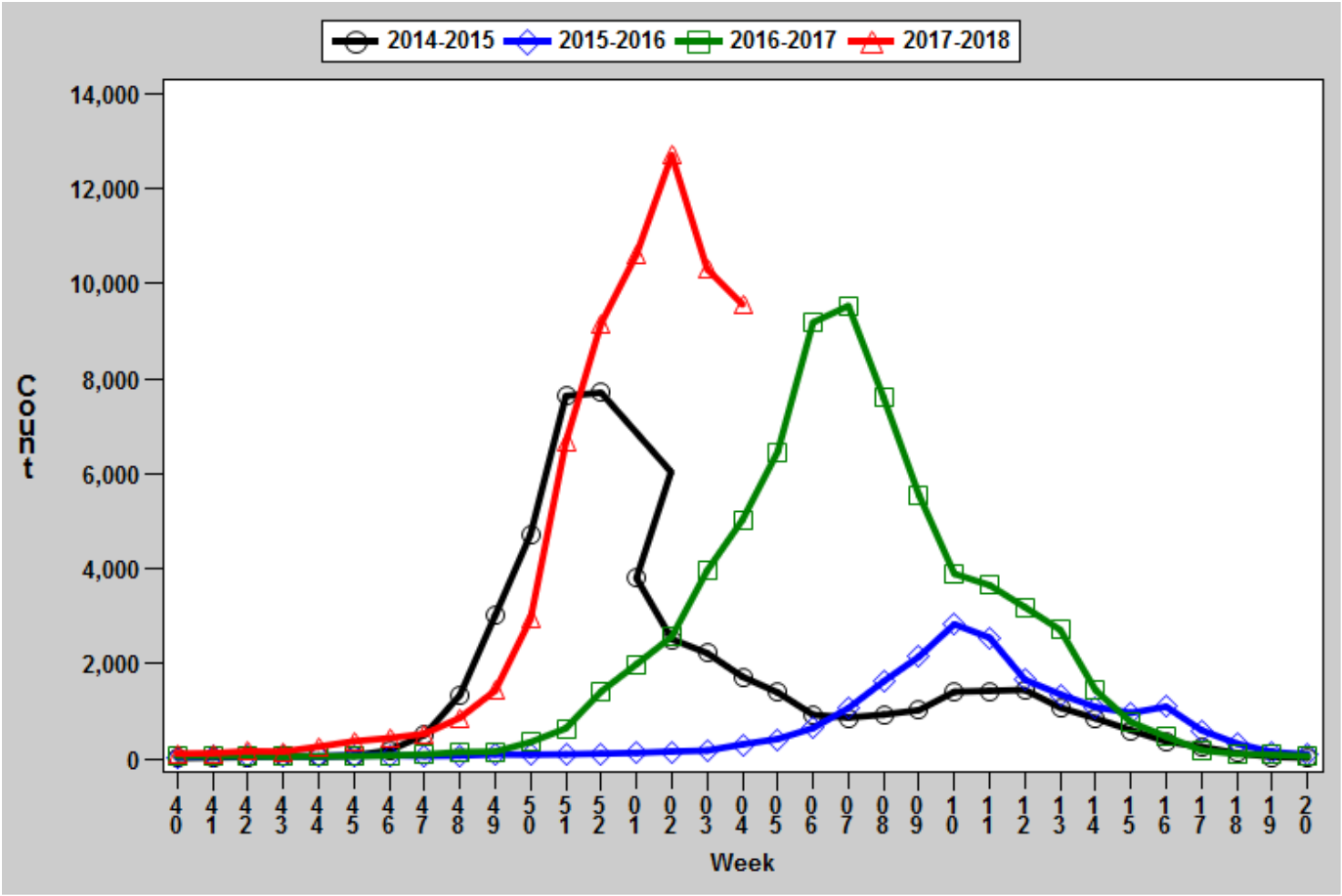
[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 3. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Region, Missouri, CDC Week 4 (January 21 – 27, 2018)[*‡]

Region	Week 4 Cases	Week 4 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
Central	804	118.76	8,319	1,228.81
Eastern	2,563	113.10	22,978	1,013.96
Northwest	3,159	197.74	16,310	1,020.96
Southeast	1,053	223.24	7,839	1,661.86
Southwest	1,987	185.48	10,927	1,019.98
Total	9,566	157.24	66,373	1,091.00

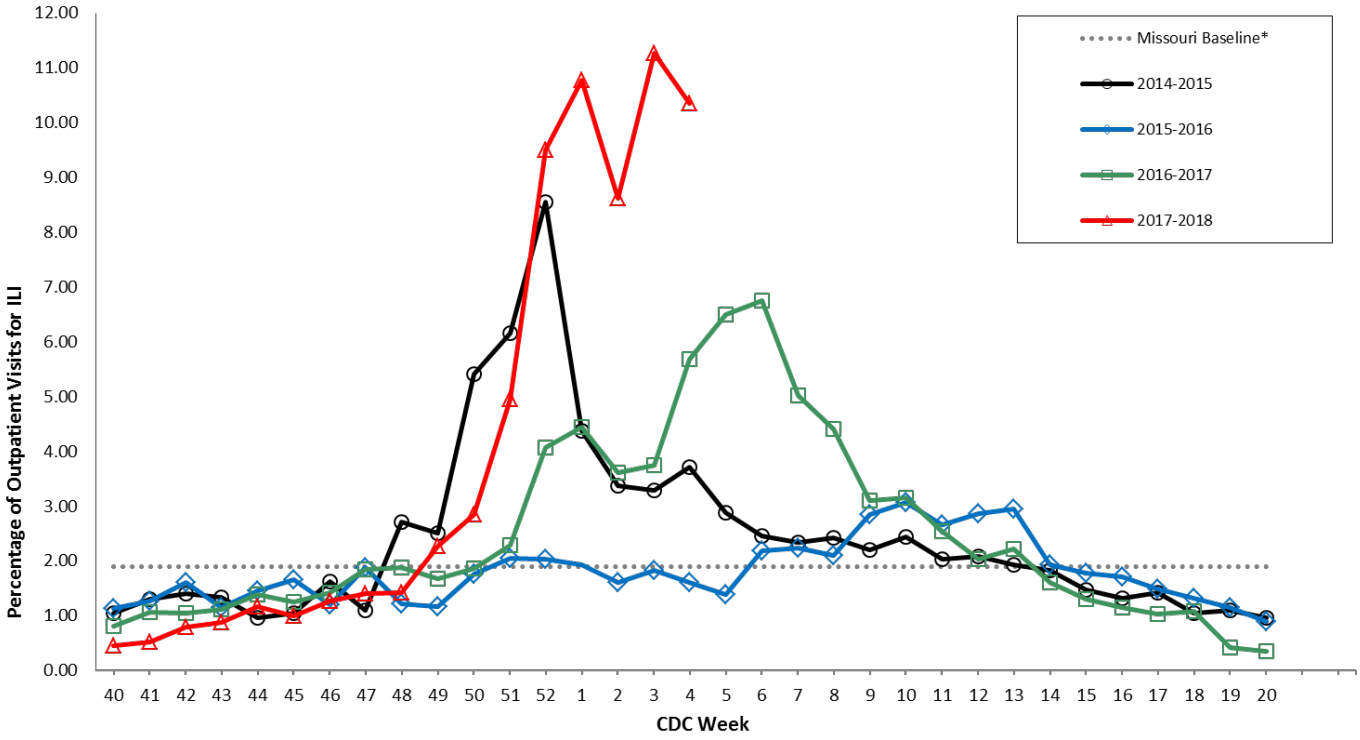
[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 4. Number of Laboratory-positive[†] Influenza Cases by CDC Week, Missouri, 2014-2018[*]



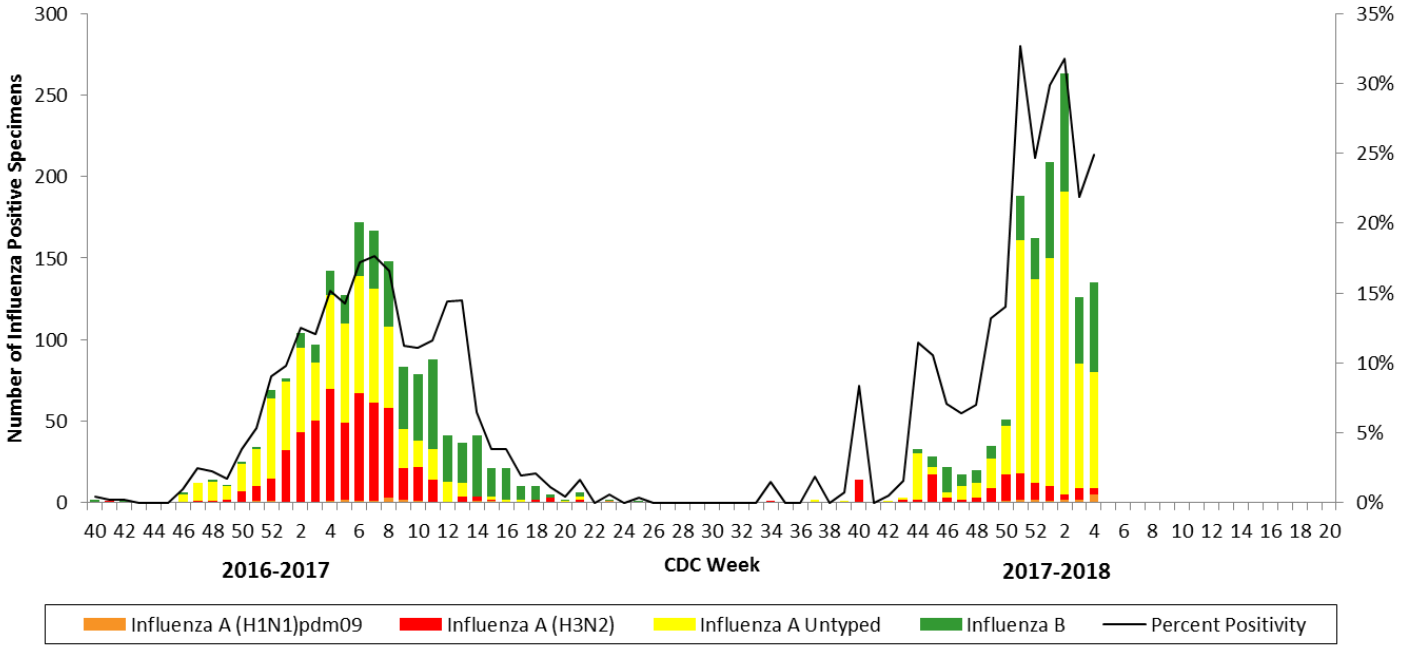
[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. Week 53, 2014-2015 flu season has 3,082 reported confirmed cases. Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 5. Percentage of Outpatient Visits for Influenza-like Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2014-2018*†



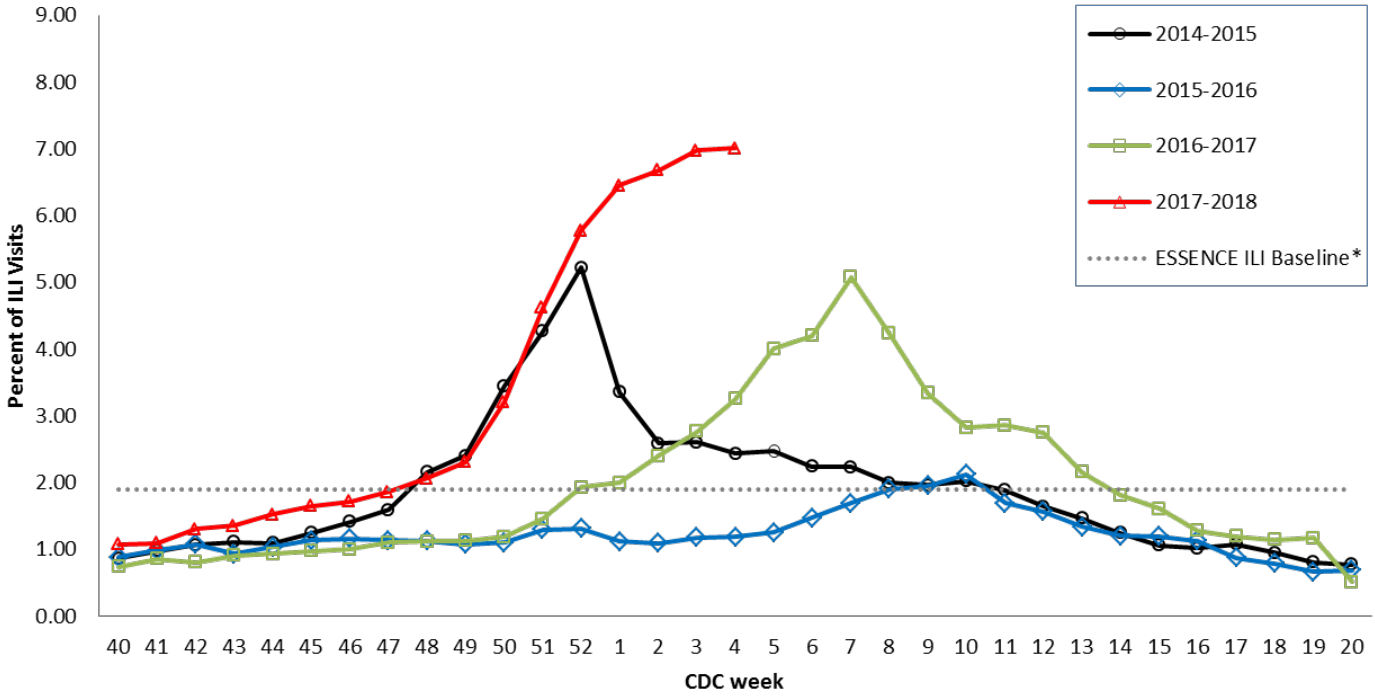
*The ILINet Region 7 (MO, IA, KS, NE) baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons, plus two standard deviations. A non-influenza week is defined as periods of two or more consecutive weeks in which each week accounted for less than 2% of the season's total number of specimens that tested positive for influenza.
Data Source: U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Centers for Disease Control and Prevention (CDC).
†2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of outpatient visits for ILI during Week 53 was 7.63.

Figure 6. Season-to-Date PCR (+) Tests for Influenza in Missouri



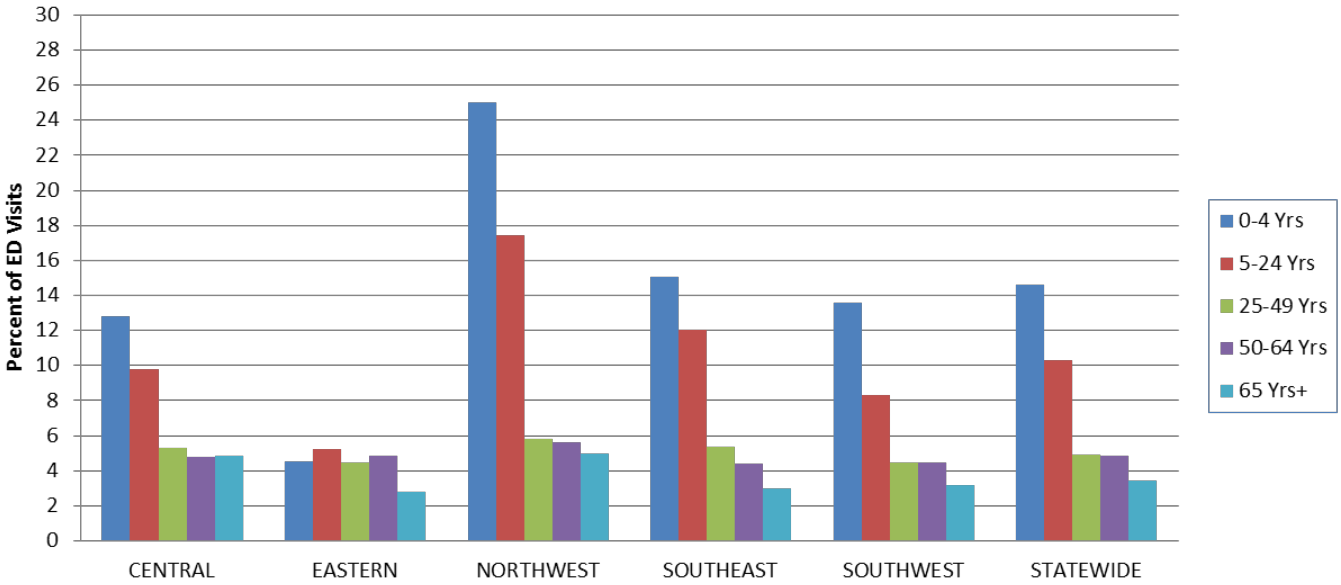
Data Source: National Respiratory and Enteric Virus Surveillance System (NREVSS), Centers for Disease Control and Prevention (CDC).
2016-2017 season-to-date through the week ending May 19, 2018 (Week 20).

Figure 7. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, 2014-2018 Influenza Seasons*†‡



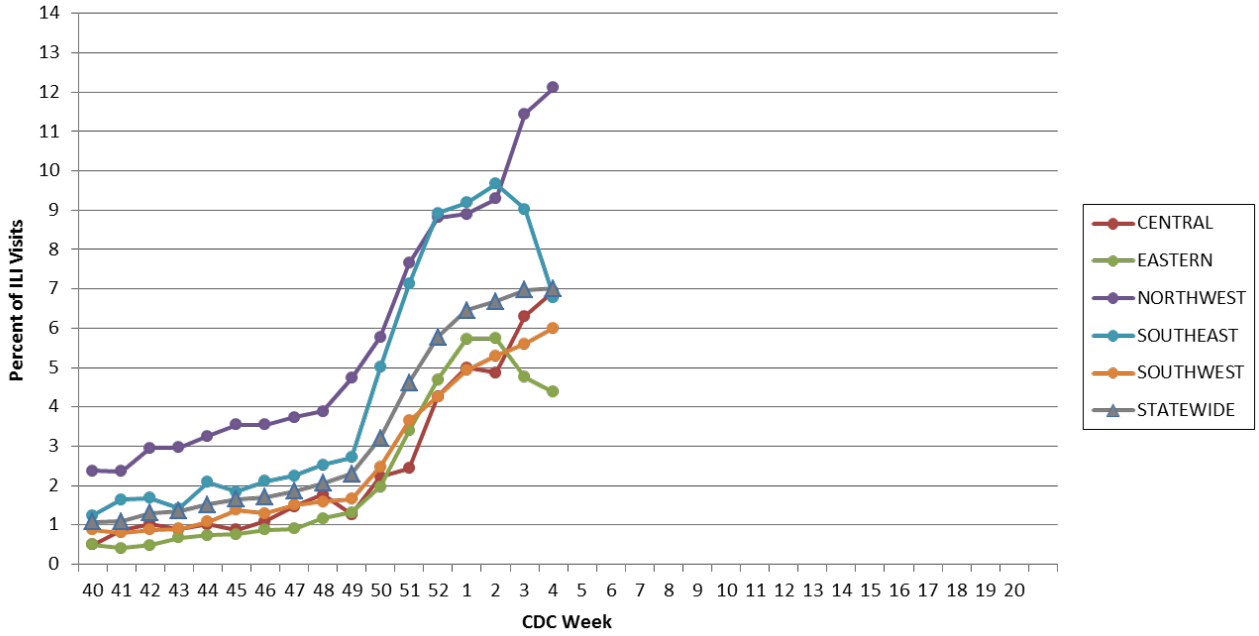
*The ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2014-16) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
†The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of visits for ILI in ESSENCE participating hospitals during Week 53 was 4.38%.
‡The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 8. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Age Group, Region and Statewide, Week 4, 2018*



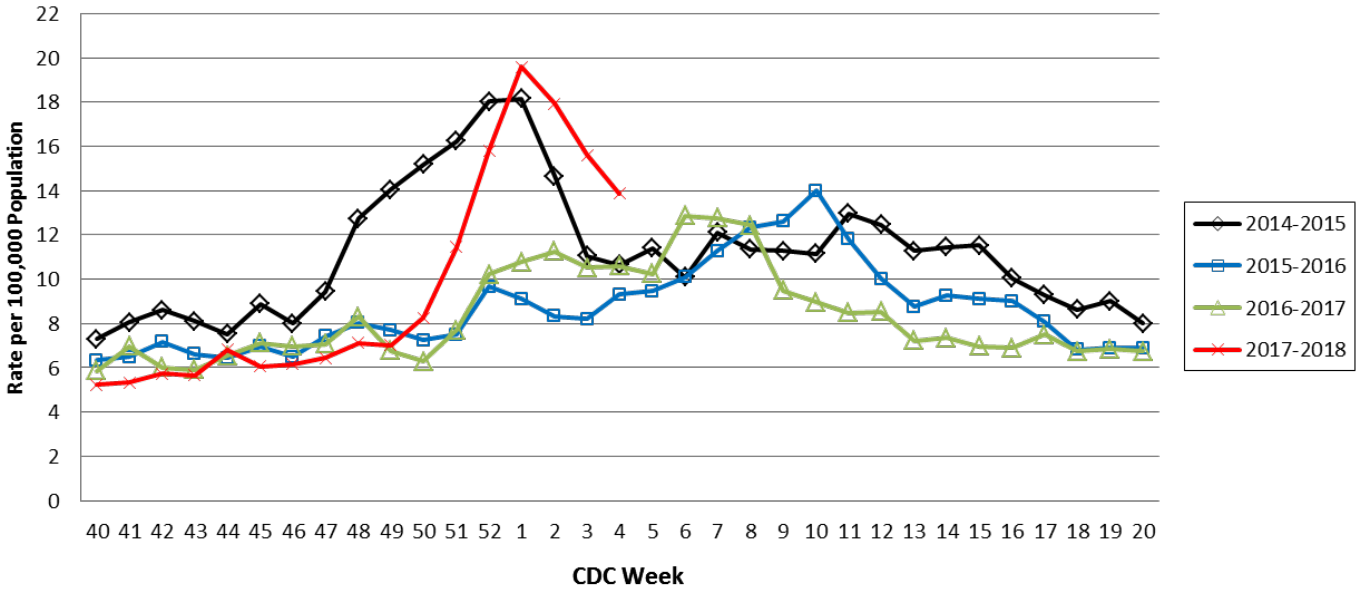
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 9. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Region and Statewide, 2017-2018 Influenza Season*



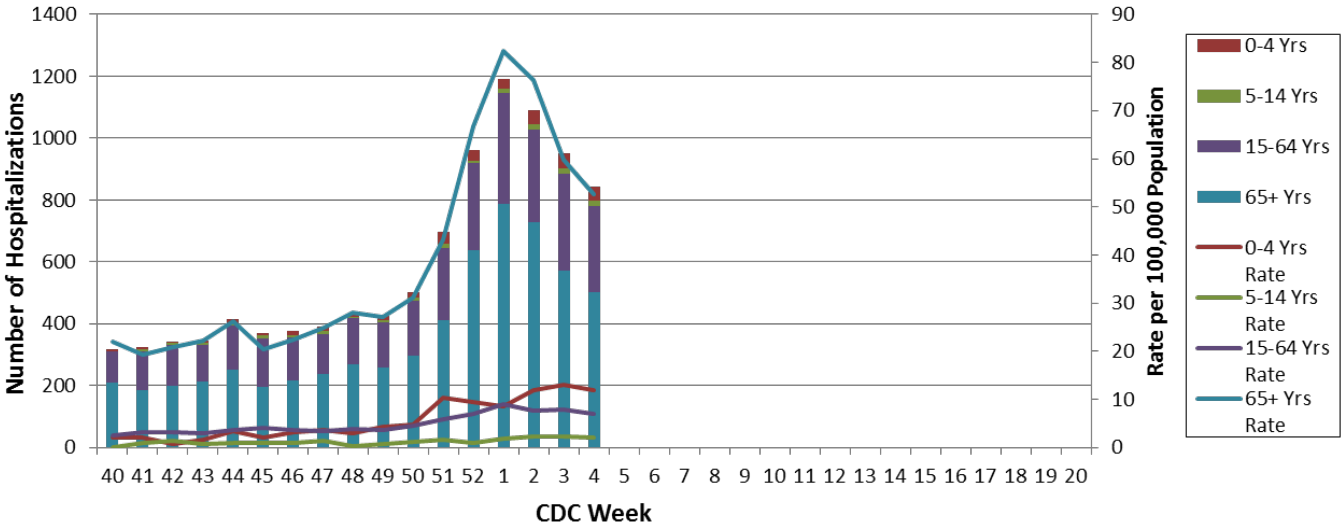
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 10. Weekly Rate of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Missouri Hospitals, 2014-2018 Influenza Seasons



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.
Population data from DHSS Population MICA 2015 (http://health.mo.gov/data/mica/mica/population.php).

Figure 11. Number of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Participating Missouri Hospitals, by Age Group, Week 4, 2017-2018 Influenza Season



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.

Additional Influenza Data Sources:

Centers for Disease Control and Prevention: National Influenza Surveillance (FluView):
http://www.cdc.gov/flu/weekly/fluactivitysurv.htm

The National Respiratory and Enteric Virus Surveillance System (NREVSS):
https://www.cdc.gov/surveillance/nrevss/

World Health Organization: International Influenza Surveillance:
http://www.who.int/influenza/surveillance_monitoring/en/

Missouri Weekly Influenza Surveillance Report
2017-2018 Influenza Season[1]

Week 5: January 28 – February 3, 2018

All data are preliminary and may change as more reports are received.

Summary:

- The estimated influenza activity in Missouri is Widespread[2].

- During Week 5, a total of 10,550 laboratory-positive[3] influenza cases (6,170 influenza A, 4,162 influenza B, and 218 untyped) were reported. A season-to-date total of 79,362 laboratory-positive influenza cases (59,390 influenza A, 18,906 influenza B, and 1,066 untyped) have been reported in Missouri as of Week 5. The influenza type for reported season-to date cases includes 75% influenza A, 24% influenza B, and 1% untyped. Fifteen laboratory-positive cases of influenza (eight influenza A (H3), four influenza A (H1N1), and three influenza B (Yamagata)) were reported by the Missouri State Public Health Laboratory (MSPHL) during Week 5.

- Influenza-like illness (ILI) activity was above baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 10.23% (Figure 5) and 7.56% (Figure 7) through ILINet and ESSENCE respectively.[4] The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution. The percentage of respiratory specimens testing positive for influenza in Missouri laboratories reporting to the National Respiratory and Enteric Virus Surveillance System (NREVSS) decreased during Week 5 (Figure 6).

- One hundred and four influenza-associated deaths have been reported in Missouri as of Week 5.[5] During Week 4, 142 deaths involving Pneumonia and Influenza (P&I) were reported to the Bureau of Vital Records, resulting in a season-to-date total of 1,030 P&I associated deaths in Missouri.[6]

- Fifty-nine outbreaks of influenza or ILI have been reported and seven influenza or ILI-associated school closures have been reported in Missouri as of Week 5.

- Influenza activity increased in the U.S. during Week 4. National influenza surveillance information is prepared by CDC and is included in the weekly FluView report, which is available online at http://www.cdc.gov/flu/weekly/fluactivitysurv.htm.

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[1]The 2017-2018 influenza season begins CDC Week 40 (week ending October 7, 2017) and ends CDC Week 39 (week ending September 29, 2018).

[2]Widespread is defined as: Outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in at least half the regions of the state with recent laboratory evidence of influenza in the state.

[3]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

[4]Influenza-like illness (ILI) is defined by ILINet as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza. ILI is defined by ESSENCE as Emergency Department chief complaints for Influenza or (FeverPlus and (Cough or SoreThroat) and not NonILIFevers).

[5]All influenza-associated deaths became reportable in Missouri in 2016.

[6]The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

Surveillance Data:

Interactive Maps

The jurisdiction-specific influenza data are provided though interactive maps available at http://arcg.is/ujLb8. *Click on the jurisdiction to view the influenza data specific to that jurisdiction.*

- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, CDC Week 5**
- **Reported Week-specific Rate per 100,000 Population, CDC Week 5**
- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, Season-to-Date**
- **Reported Rate per 100,000 Population, Season-to-Date**

Data Figures

Figure 1. Number of Laboratory-positive[†] Influenza Cases by Influenza Type, Missouri, CDC Week 5 (January 28 – February 3, 2018)[*]

Influenza Type	Week 3	Week 4	Week 5	2017-2018* Season-to-Date
Influenza A	7,671	7,700	6,170	59,390
Influenza B	2,852	3,565	4,162	18,906
Influenza Unknown Or Untyped	168	226	218	1,066
Total	10,691	11,491	10,550	79,362

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 2. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 5 (January 28 – February 3, 2018)[*‡]

Age Group	Week 5 Cases	Week 5 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
00-04	1,631	435.68	12,311	3,288.55
05-24	4,621	288.00	26,769	1,668.35
25-49	1,950	101.91	16,191	846.15
50-64	1,252	101.26	11,501	930.22
65+	1,096	114.77	12,590	1,318.43
Total	10,550	173.42	79,362	1,304.51

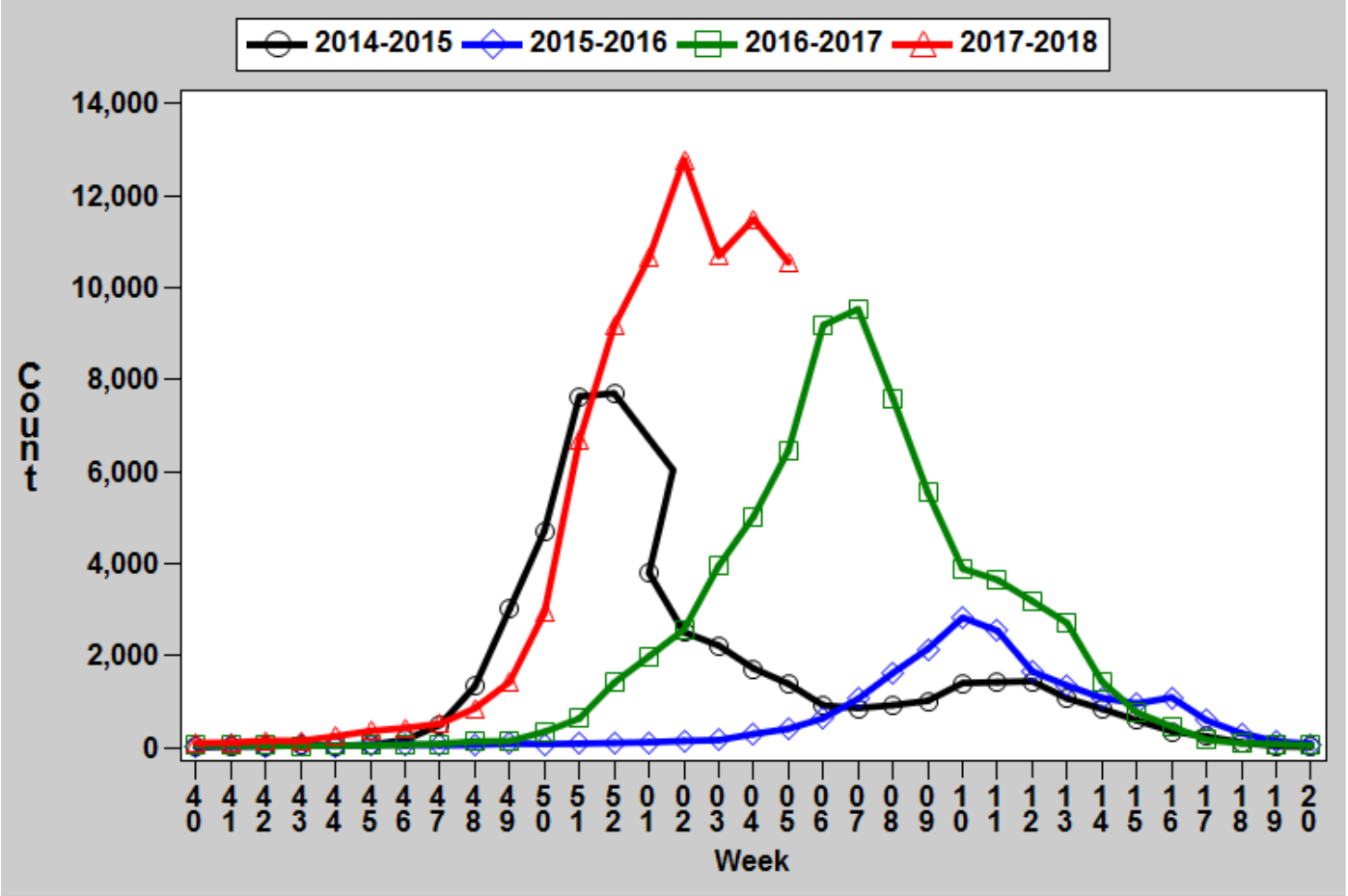
[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 3. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Region, Missouri, CDC Week 5 (January 28 – February 3, 2018)[*‡]

Region	Week 5 Cases	Week 5 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
Central	1,610	237.81	10,949	1,617.29
Eastern	2,292	101.14	25,314	1,117.05
Northwest	3,347	209.51	20,231	1,266.40
Southeast	1,317	279.20	9,758	2,068.69
Southwest	1,984	185.20	13,110	1,223.75
Total	10,550	173.42	79,362	1,304.51

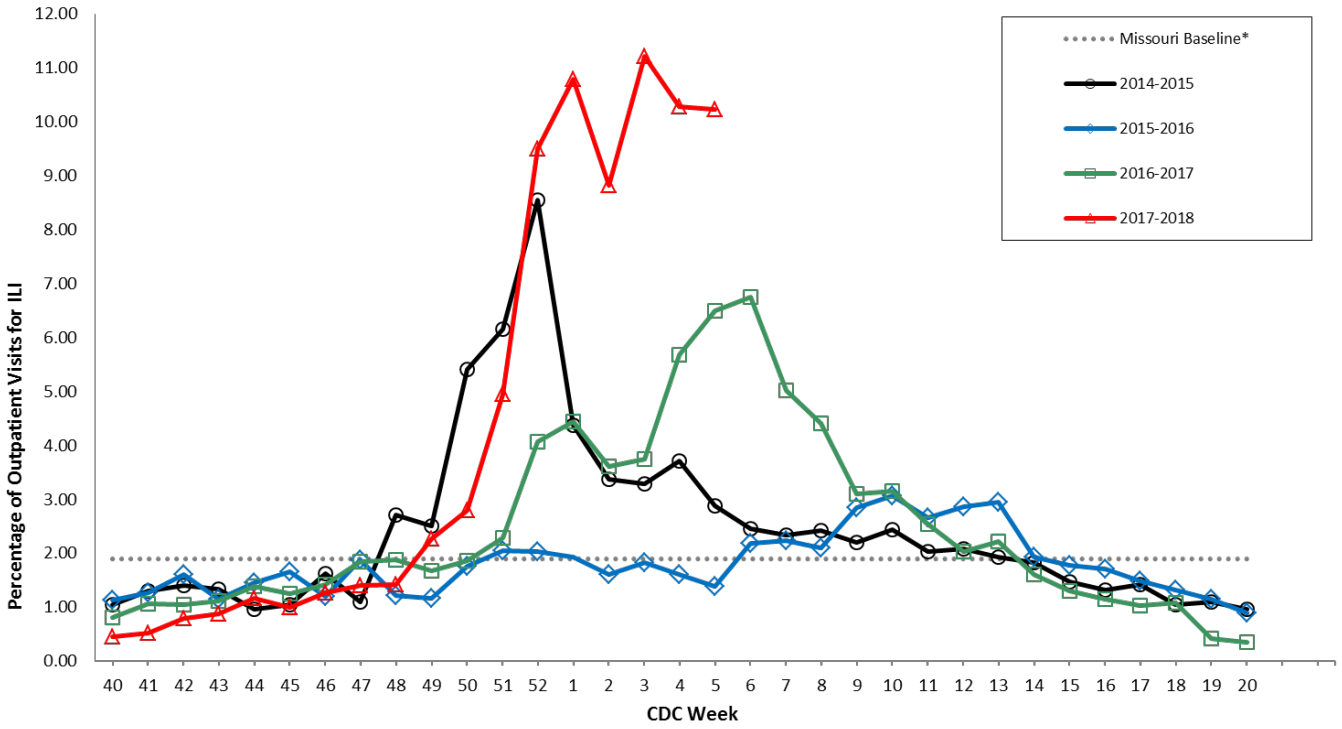
[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 4. Number of Laboratory-positive[†] Influenza Cases by CDC Week, Missouri, 2014-2018[*]



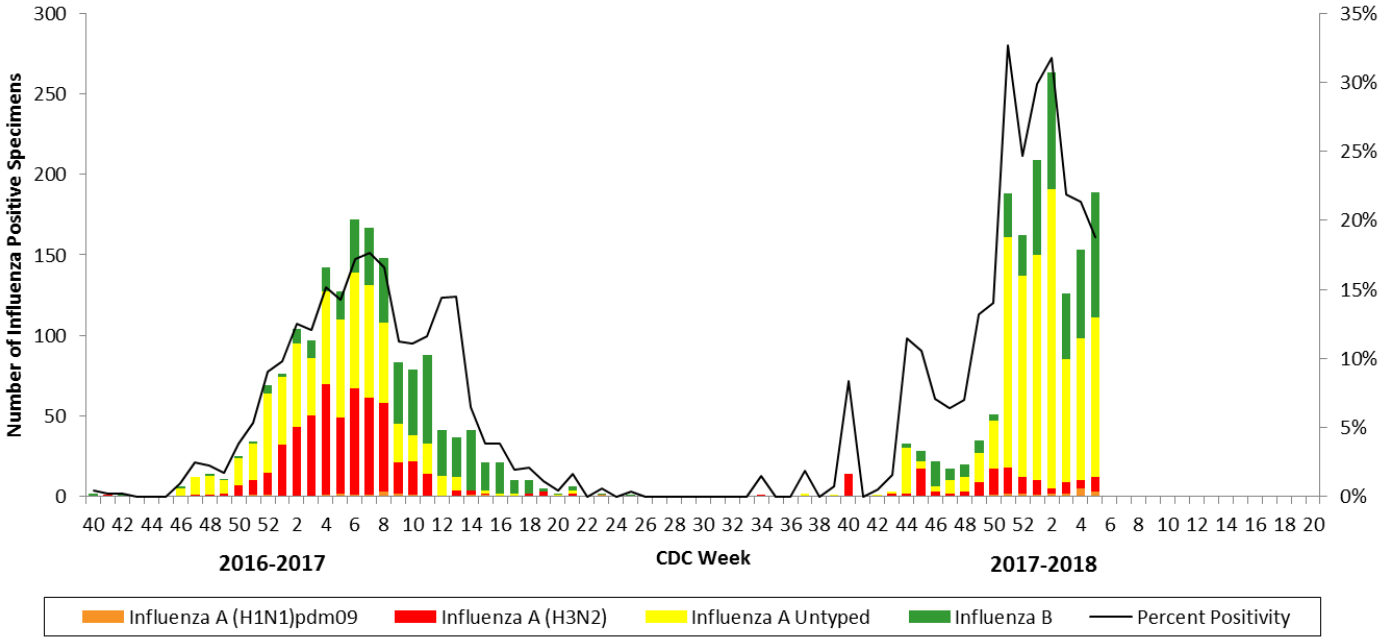
[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. Week 53, 2014-2015 flu season has 3,082 reported confirmed cases. Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 5. Percentage of Outpatient Visits for Influenza-like Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2014-2018*†



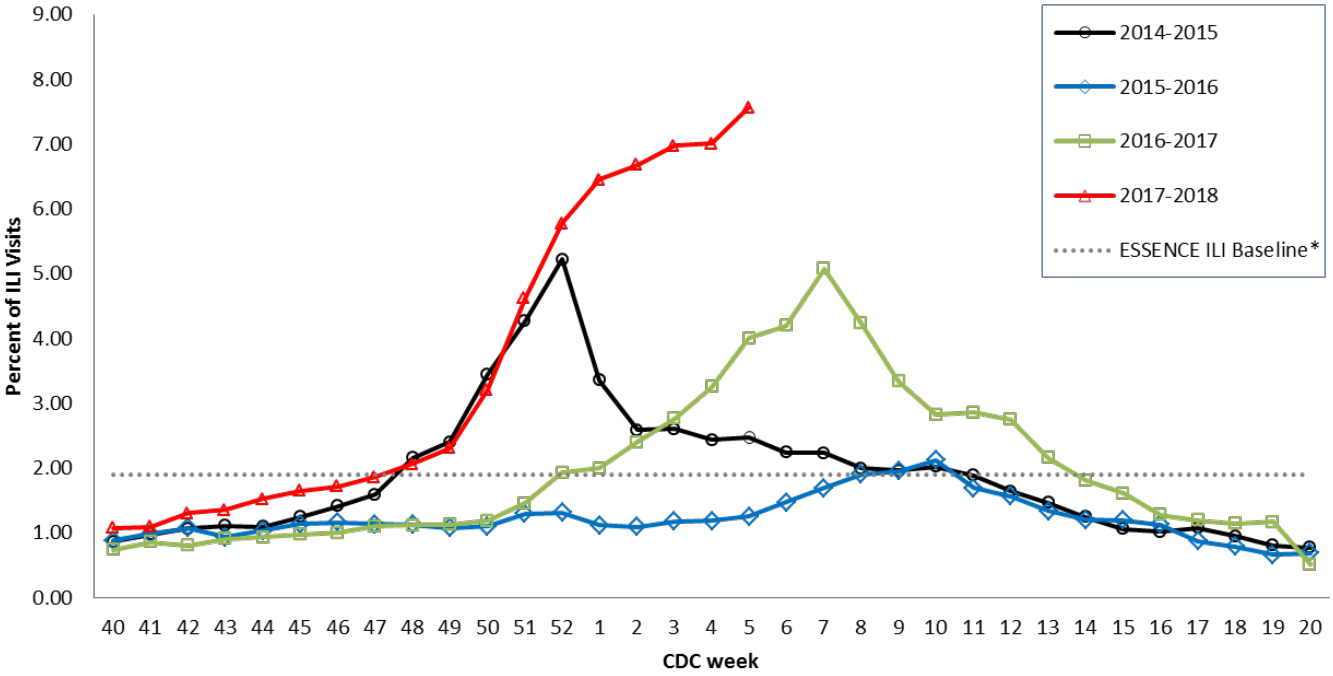
*The ILINet Region 7 (MO, IA, KS, NE) baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons, plus two standard deviations. A non-influenza week is defined as periods of two or more consecutive weeks in which each week accounted for less than 2% of the season's total number of specimens that tested positive for influenza.
Data Source: U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Centers for Disease Control and Prevention (CDC).
†2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of outpatient visits for ILI during Week 53 was 7.63.

Figure 6. Season-to-Date PCR (+) Tests for Influenza in Missouri



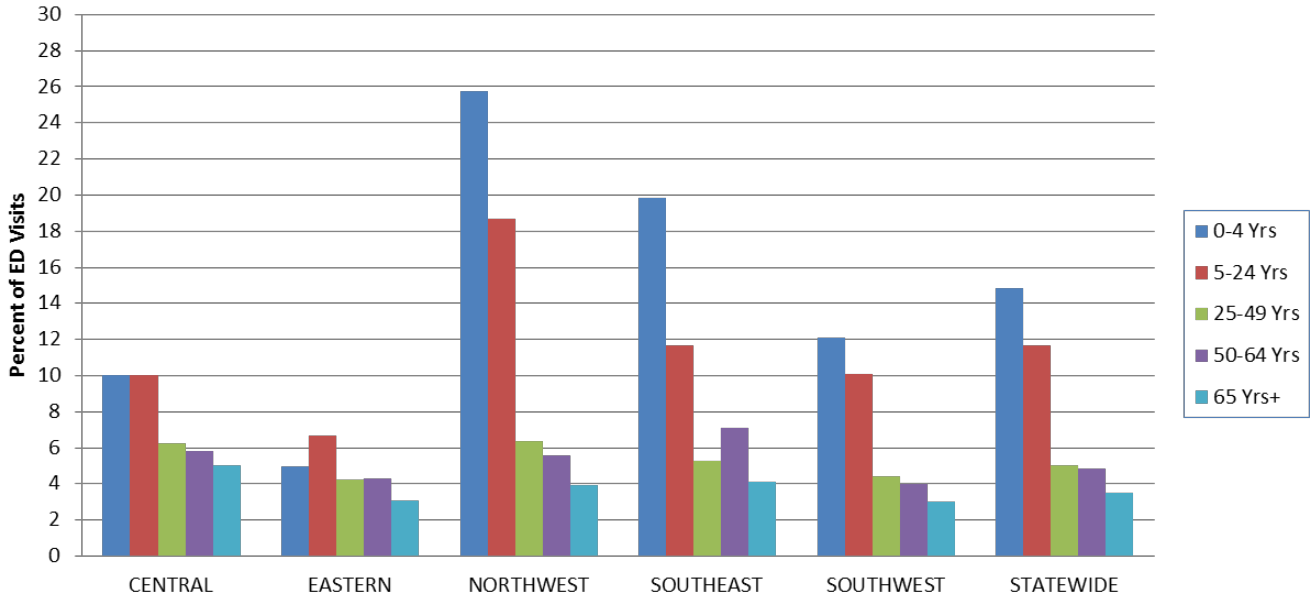
Data Source: National Respiratory and Enteric Virus Surveillance System (NREVSS), Centers for Disease Control and Prevention (CDC).
2016-2017 season-to-date through the week ending May 19, 2018 (Week 20).

Figure 7. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, 2014-2018 Influenza Seasons*†‡



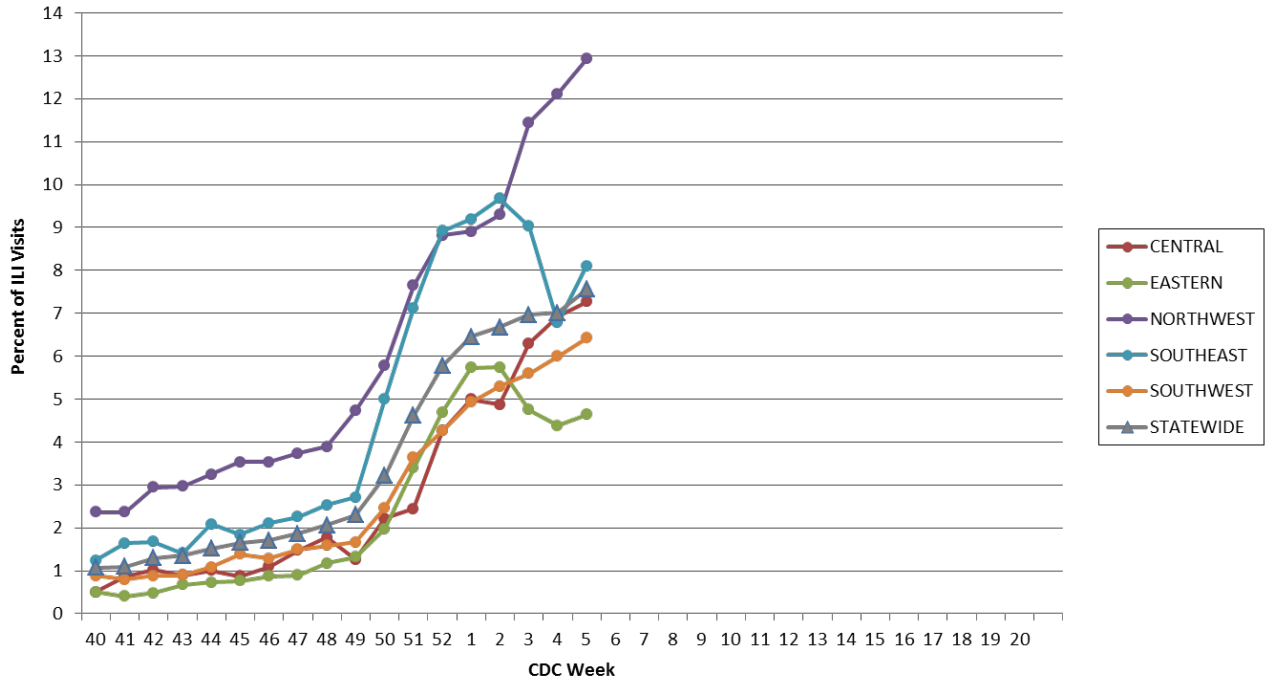
*The ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2014-16) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
†The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of visits for ILI in ESSENCE participating hospitals during Week 53 was 4.38%.
‡The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 8. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Age Group, Region and Statewide, Week 5, 2018*



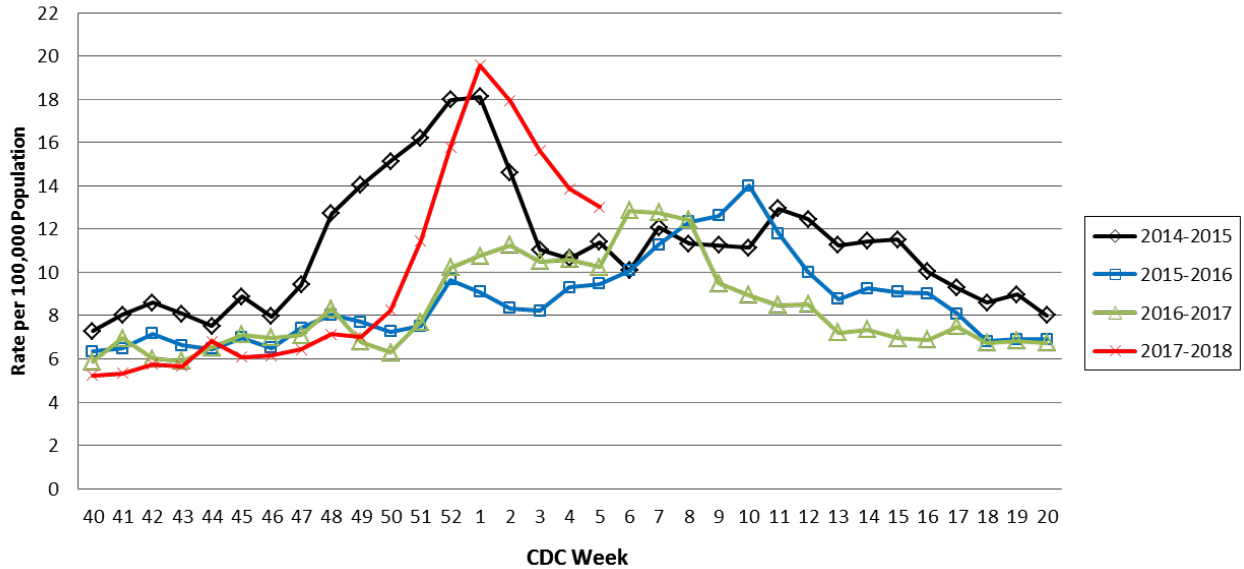
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 9. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Region and Statewide, 2017-2018 Influenza Season*



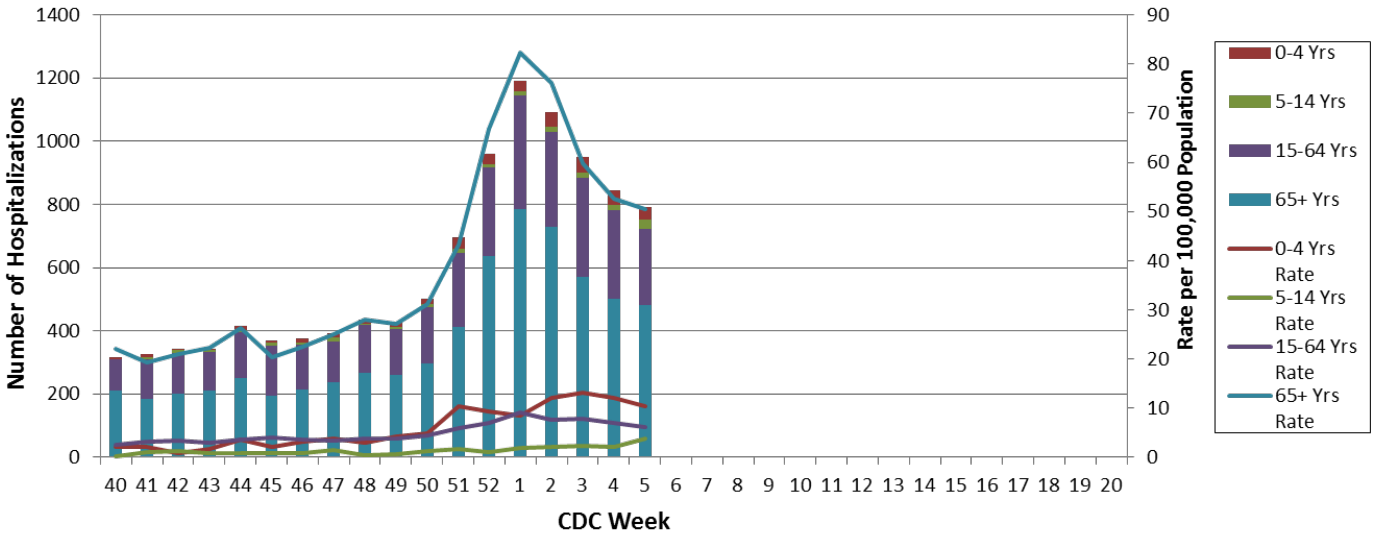
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 10. Weekly Rate of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Missouri Hospitals, 2014-2018 Influenza Seasons



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.
Population data from DHSS Population MICA 2015 (http://health.mo.gov/data/mica/mica/population.php).

Figure 11. Number of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Participating Missouri Hospitals, by Age Group, Week 5, 2017-2018 Influenza Season



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.

Additional Influenza Data Sources:

Centers for Disease Control and Prevention: National Influenza Surveillance (FluView):
http://www.cdc.gov/flu/weekly/fluactivitysurv.htm

The National Respiratory and Enteric Virus Surveillance System (NREVSS):
https://www.cdc.gov/surveillance/nrevss/

World Health Organization: International Influenza Surveillance:
http://www.who.int/influenza/surveillance_monitoring/en/

Missouri Weekly Influenza Surveillance Report 2017-2018 Influenza Season[1]

Week 6: February 4 – 10, 2018

All data are preliminary and may change as more reports are received.

Summary:

- The estimated influenza activity in Missouri is Widespread[2].

- During Week 6, a total of 8,499 laboratory-positive[3] influenza cases (4,652 influenza A, 3,725 influenza B, and 122 untyped) were reported. A season-to-date total of 92,863 laboratory-positive influenza cases (67,455 influenza A, 24,155 influenza B, and 1,253 untyped) have been reported in Missouri as of Week 6. The influenza type for reported season-to date cases includes 73% influenza A, 26% influenza B, and 1% untyped. Nineteen laboratory-positive cases of influenza (seven influenza A (H3), four influenza A (H1N1), and eight influenza B (Yamagata)) were reported by the Missouri State Public Health Laboratory (MSPHL) during Week 6.

- Influenza-like illness (ILI) activity was above baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 9.61% (Figure 5) and 7.46% (Figure 7) through ILINet and ESSENCE respectively.[4] The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution. The percentage of respiratory specimens testing positive for influenza in Missouri laboratories reporting to the National Respiratory and Enteric Virus Surveillance System (NREVSS) increased during Week 6 (Figure 6).

- One hundred and thirty-six influenza-associated deaths have been reported in Missouri as of Week 6.[5] During Week 5, 47 deaths involving Pneumonia and Influenza (P&I) were reported to the Bureau of Vital Records, resulting in a season-to-date total of 1,077 P&I associated deaths in Missouri.[6]

- Sixty-five outbreaks of influenza or ILI have been reported and 13 influenza or ILI-associated school closures have been reported in Missouri as of Week 6.

- Influenza activity increased in the U.S. during Week 5. National influenza surveillance information is prepared by CDC and is included in the weekly FluView report, which is available online at http://www.cdc.gov/flu/weekly/fluactivitysurv.htm.

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[1]The 2017-2018 influenza season begins CDC Week 40 (week ending October 7, 2017) and ends CDC Week 39 (week ending September 29, 2018).

[2]Widespread is defined as: Outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in at least half the regions of the state with recent laboratory evidence of influenza in the state.

[3]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

[4]Influenza-like illness (ILI) is defined by ILINet as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza. ILI is defined by ESSENCE as Emergency Department chief complaints for Influenza or (FeverPlus and (Cough or SoreThroat) and not NonILIFevers).

[5]All influenza-associated deaths became reportable in Missouri in 2016.

[6]The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

Surveillance Data:

Interactive Maps

The jurisdiction-specific influenza data are provided though interactive maps available at http://arcg.is/0n1jPP. *Click on the jurisdiction to view the influenza data specific to that jurisdiction.*

- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, CDC Week 6**
- **Reported Week-specific Rate per 100,000 Population, CDC Week 6**
- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, Season-to-Date**
- **Reported Rate per 100,000 Population, Season-to-Date**

Data Figures

Figure 1. Number of Laboratory-positive[†] Influenza Cases by Influenza Type, Missouri, CDC Week 6 (February 4 – 10, 2018)[*]

Influenza Type	Week 4	Week 5	Week 6	2017-2018* Season-to-Date
Influenza A	8,330	7,308	4,652	67,455
Influenza B	3,840	4,971	3,725	24,155
Influenza Unknown Or Untyped	254	240	122	1,253
Total	12,424	12,519	8,499	92,863

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 2. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 6 (February 4 – 10, 2018)[*‡]

Age Group	Week 6 Cases	Week 6 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
00-04	1,430	381.99	14,619	3,905.06
05-24	3,618	225.49	32,341	2,015.62
25-49	1,506	78.70	18,601	972.09
50-64	1,070	86.54	13,175	1,065.62
65+	875	91.63	14,127	1,479.39
Total	8,499	139.70	92,863	1,526.43

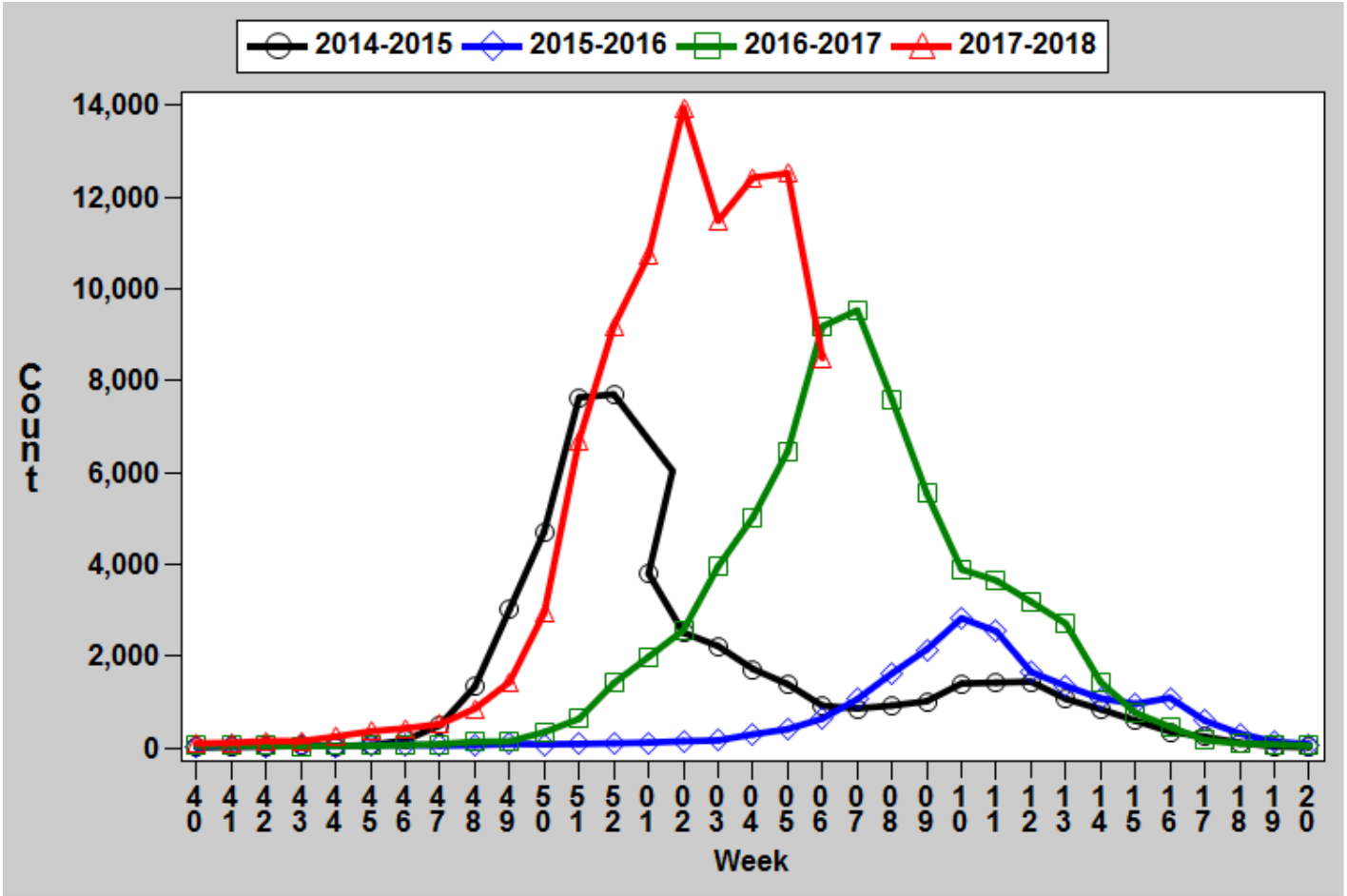
[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 3. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Region, Missouri, CDC Week 6 (February 4 – 10, 2018)[*‡]

Region	Week 6 Cases	Week 6 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
Central	824	121.71	11,943	1,764.11
Eastern	2,025	89.36	30,712	1,355.25
Northwest	3,357	210.14	24,440	1,529.87
Southeast	728	154.34	10,734	2,275.60
Southwest	1,565	146.08	15,034	1,403.34
Total	8,499	139.70	92,863	1,526.43

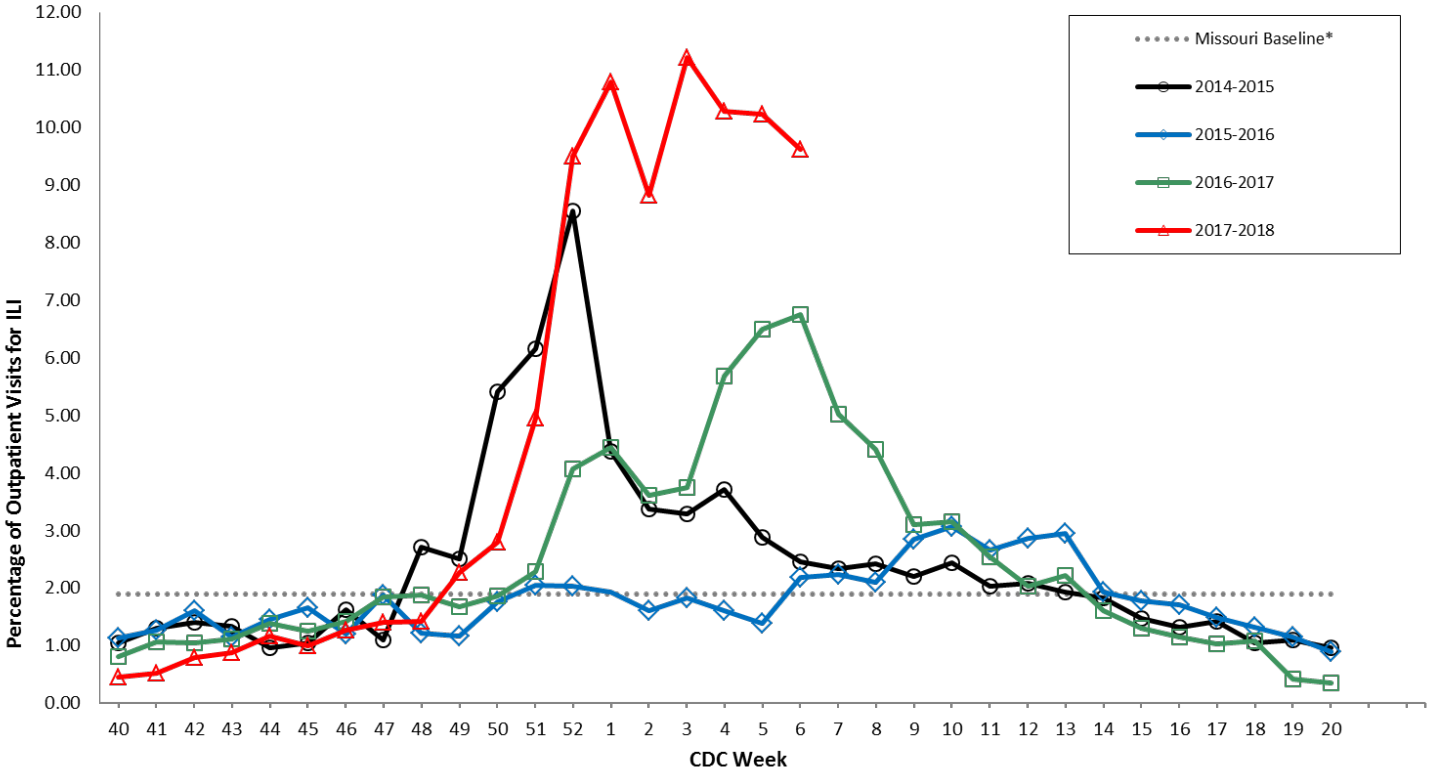
[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 4. Number of Laboratory-positive[†] Influenza Cases by CDC Week, Missouri, 2014-2018[*]



[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. Week 53, 2014-2015 flu season has 3,082 reported confirmed cases. Data Source: Missouri Health Information Surveillance System (WebSurv).

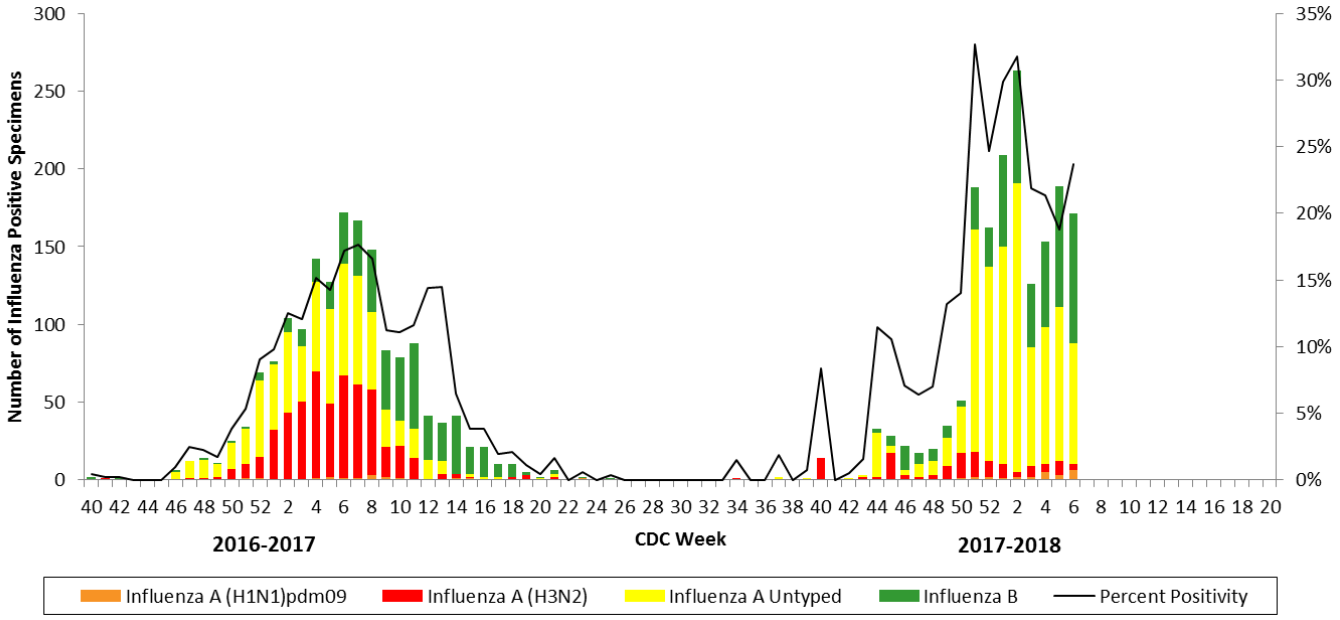
Figure 5. Percentage of Outpatient Visits for Influenza-like Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2014-2018*†



*The ILINet Region 7 (MO, IA, KS, NE) baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons, plus two standard deviations. A non-influenza week is defined as periods of two or more consecutive weeks in which each week accounted for less than 2% of the season's total number of specimens that tested positive for influenza.
Data Source: U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Centers for Disease Control and Prevention (CDC).

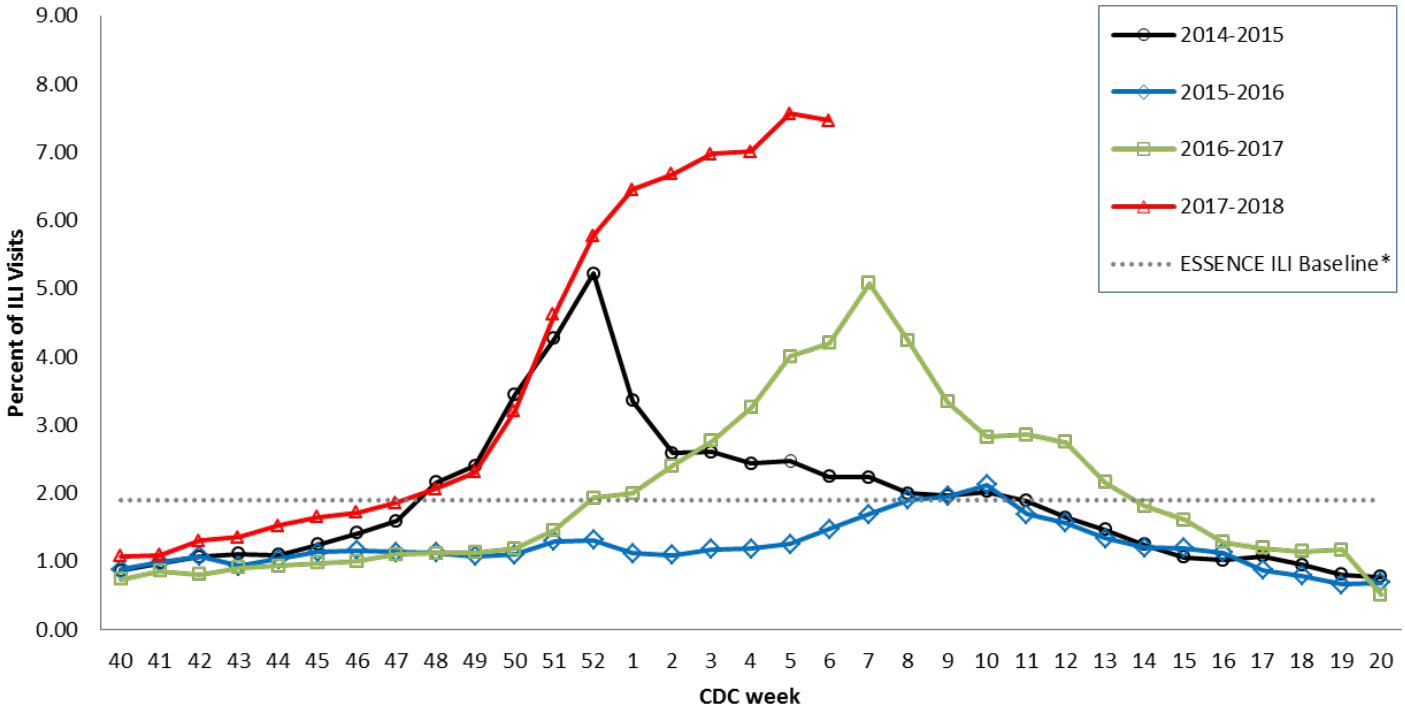
†2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of outpatient visits for ILI during Week 53 was 7.63.

Figure 6. Season-to-Date PCR (+) Tests for Influenza in Missouri



Data Source: National Respiratory and Enteric Virus Surveillance System (NREVSS), Centers for Disease Control and Prevention (CDC).
2016-2017 season-to-date through the week ending May 19, 2018 (Week 20).

Figure 7. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, 2014-2018 Influenza Seasons*†‡



*The ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2014-16) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
†The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of visits for ILI in ESSENCE participating hospitals during Week 53 was 4.38%.
‡The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

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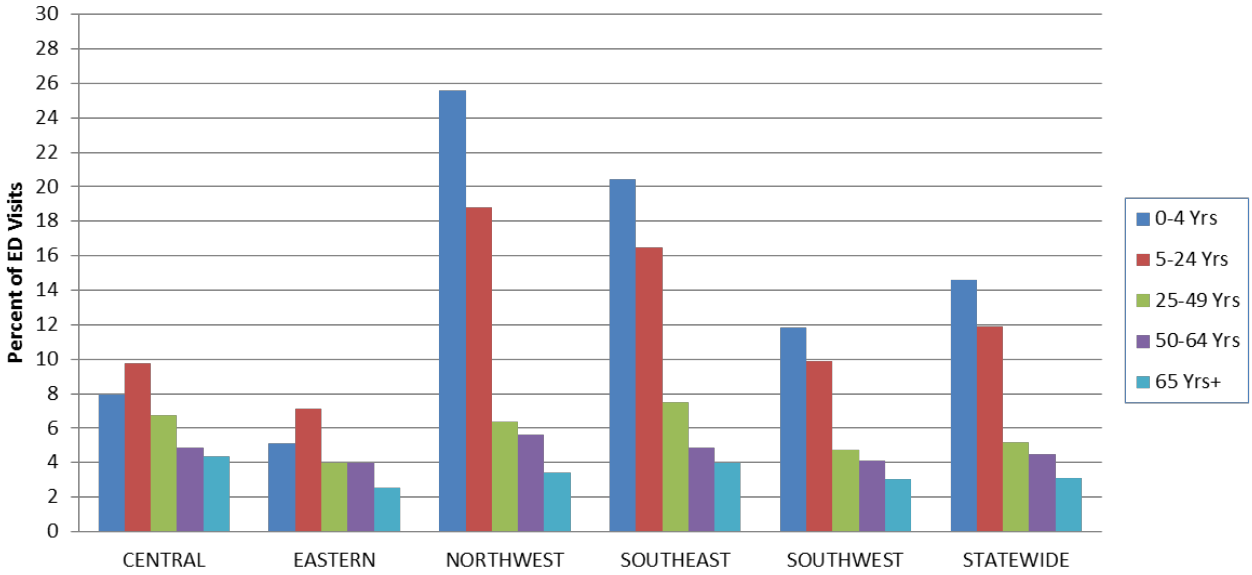

Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
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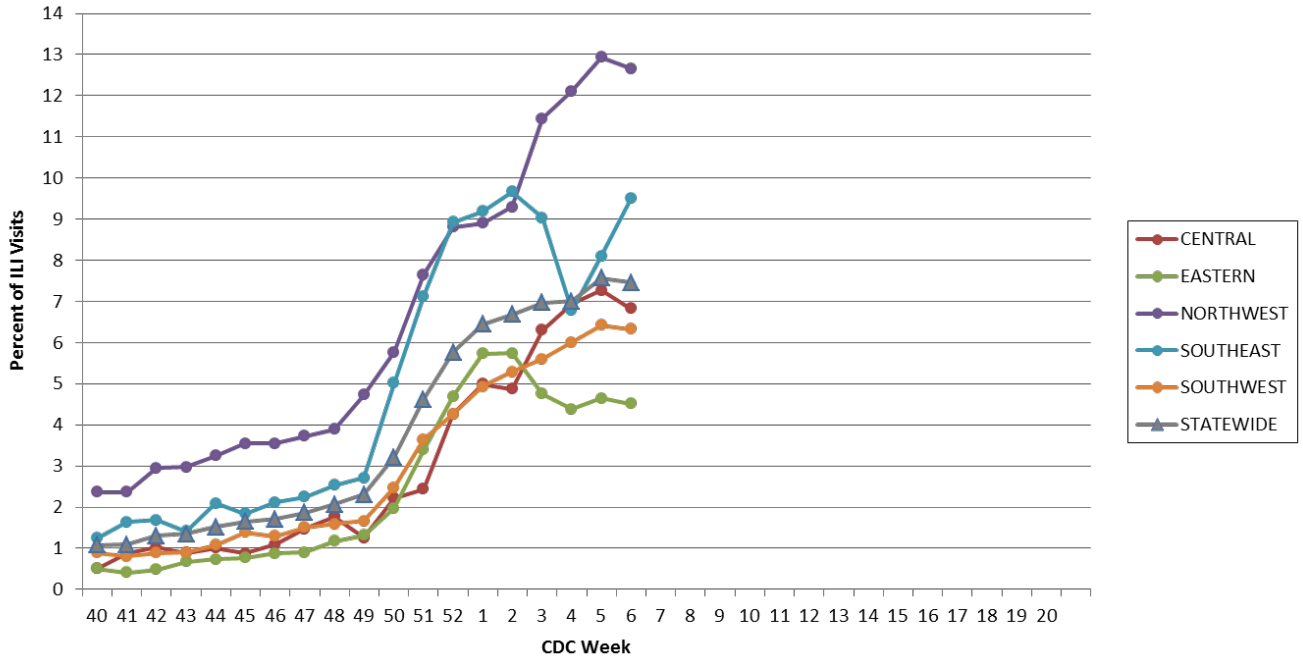
Figure 9. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Region and Statewide, 2017-2018 Influenza Season*



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
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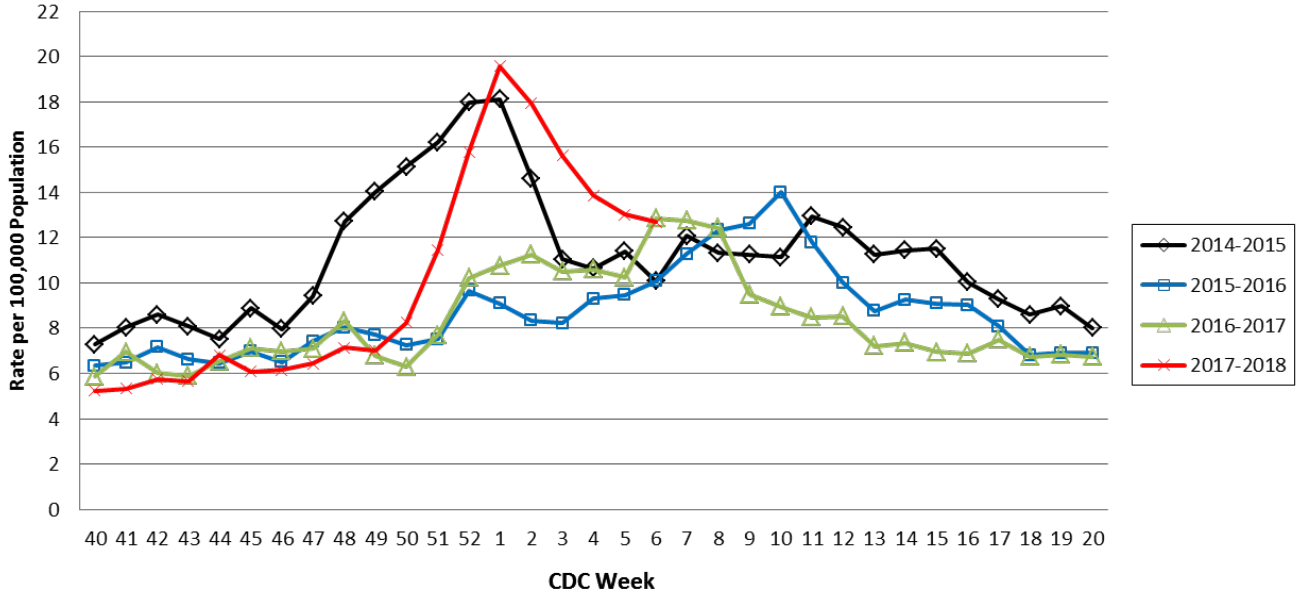
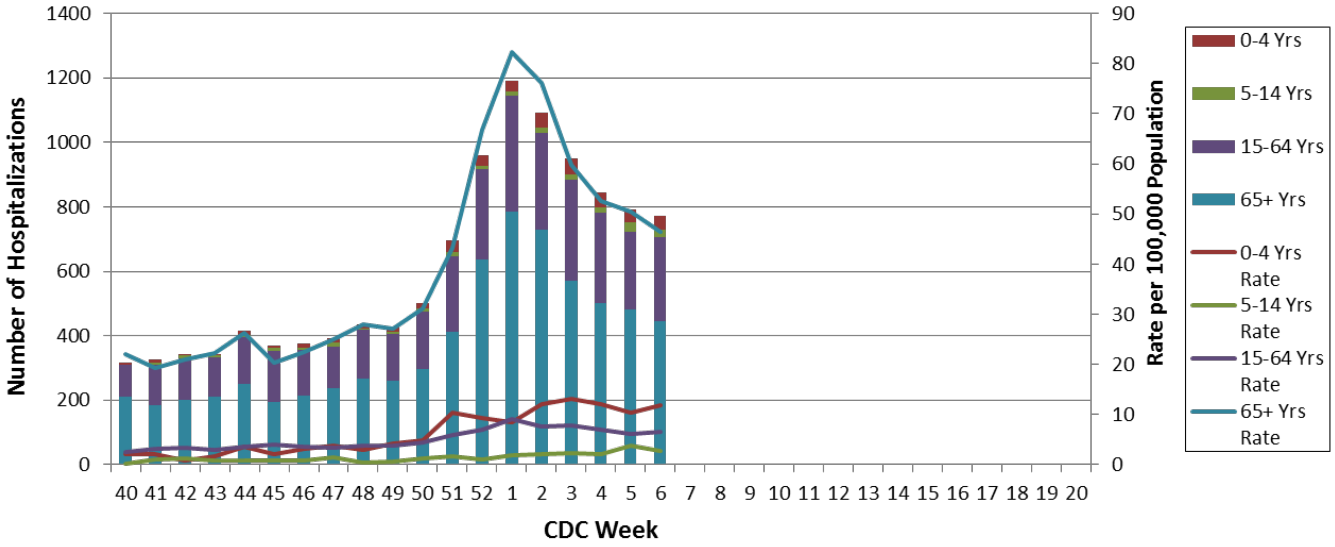
Figure 10. Weekly Rate of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Missouri Hospitals, 2014-2018 Influenza Seasons



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.
Population data from DHSS Population MICA 2015 (http://health.mo.gov/data/mica/mica/population.php).

Figure 11. Number of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Participating Missouri Hospitals, by Age Group, Week 6, 2017-2018 Influenza Season



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.

Additional Influenza Data Sources:

Centers for Disease Control and Prevention: National Influenza Surveillance (FluView): http://www.cdc.gov/flu/weekly/fluactivitysurv.htm

The National Respiratory and Enteric Virus Surveillance System (NREVSS): https://www.cdc.gov/surveillance/nrevss/

World Health Organization: International Influenza Surveillance: http://www.who.int/influenza/surveillance_monitoring/en/

Missouri Weekly Influenza Surveillance Report 2017-2018 Influenza Season[1]

Week 7: February 11 – 17, 2018

All data are preliminary and may change as more reports are received.

Summary:

- The estimated influenza activity in Missouri is Widespread[2].

- During Week 7, a total of 7,289 laboratory-positive[3] influenza cases (3,607 influenza A, 3,577 influenza B, and 105 untyped) were reported. A season-to-date total of 103,631 laboratory-positive influenza cases (72,779 influenza A, 29,418 influenza B, and 1,434 untyped) have been reported in Missouri as of Week 7. The influenza type for reported season-to date cases includes 70% influenza A, 29% influenza B, and 1% untyped. Fifteen laboratory-positive cases of influenza (three influenza A (H3), seven influenza A (H1N1), and five influenza B (Yamagata)) were reported by the Missouri State Public Health Laboratory (MSPHL) during Week 7.

- Influenza-like illness (ILI) activity was above baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 8.74% (Figure 5) and 6.94% (Figure 7) through ILINet and ESSENCE respectively.[4] The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution. The percentage of respiratory specimens testing positive for influenza in Missouri laboratories reporting to the National Respiratory and Enteric Virus Surveillance System (NREVSS) decreased during Week 7 (Figure 6).

- One hundred and sixty-two influenza-associated deaths have been reported in Missouri as of Week 7.[5] During Week 6, 119 deaths involving Pneumonia and Influenza (P&I) were reported to the Bureau of Vital Records, resulting in a season-to-date total of 1,196 P&I associated deaths in Missouri.[6]

- Sixty-six outbreaks of influenza or ILI have been reported and 13 influenza or ILI-associated school closures have been reported in Missouri as of Week 7.

- Influenza activity remained elevated in the U.S. during Week 6. National influenza surveillance information is prepared by CDC and is included in the weekly FluView report, which is available online at http://www.cdc.gov/flu/weekly/fluactivitysurv.htm.

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[1]The 2017-2018 influenza season begins CDC Week 40 (week ending October 7, 2017) and ends CDC Week 39 (week ending September 29, 2018).

[2]Widespread is defined as: Outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in at least half the regions of the state with recent laboratory evidence of influenza in the state.

[3]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

[4]Influenza-like illness (ILI) is defined by ILINet as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza. ILI is defined by ESSENCE as Emergency Department chief complaints for Influenza or (FeverPlus and (Cough or SoreThroat) and not NonILIFevers).

[5]All influenza-associated deaths became reportable in Missouri in 2016.

[6]The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

Surveillance Data:

Interactive Maps

The jurisdiction-specific influenza data are provided though interactive maps available at http://arcg.is/1qy8yL. *Click on the jurisdiction to view the influenza data specific to that jurisdiction.*

- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, CDC Week 7**
- **Reported Week-specific Rate per 100,000 Population, CDC Week 7**
- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, Season-to-Date**
- **Reported Rate per 100,000 Population, Season-to-Date**

Data Figures

Figure 1. Number of Laboratory-positive[†] Influenza Cases by Influenza Type, Missouri, CDC Week 7 (February 11 – 17, 2018)[*]

Influenza Type	Week 5	Week 6	Week 7	2017-2018* Season-to-Date
Influenza A	7,417	5,955	3,607	72,779
Influenza B	5,057	5,220	3,577	29,418
Influenza Unknown Or Untyped	253	185	105	1,434
Total	12,727	11,360	7,289	103,631

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 2. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 7 (February 11 – 17, 2018)[*‡]

Age Group	Week 7 Cases	Week 7 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
00-04	1,110	296.51	16,183	4,322.84
05-24	3,023	188.41	36,752	2,290.54
25-49	1,378	72.01	20,628	1,078.02
50-64	952	77.00	14,653	1,185.16
65+	826	86.50	15,415	1,614.27
Total	7,289	119.81	103,631	1,703.43

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 3. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Region, Missouri, CDC Week 7 (February 11 – 17, 2018)[*‡]

Region	Week 7 Cases	Week 7 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
Central	504	74.45	13,371	1,975.04
Eastern	1,789	78.94	32,957	1,454.31
Northwest	2,870	179.65	28,494	1,783.64
Southeast	694	147.13	11,864	2,515.16
Southwest	1,432	133.67	16,945	1,581.72
Total	7,289	119.81	103,631	1,703.43

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
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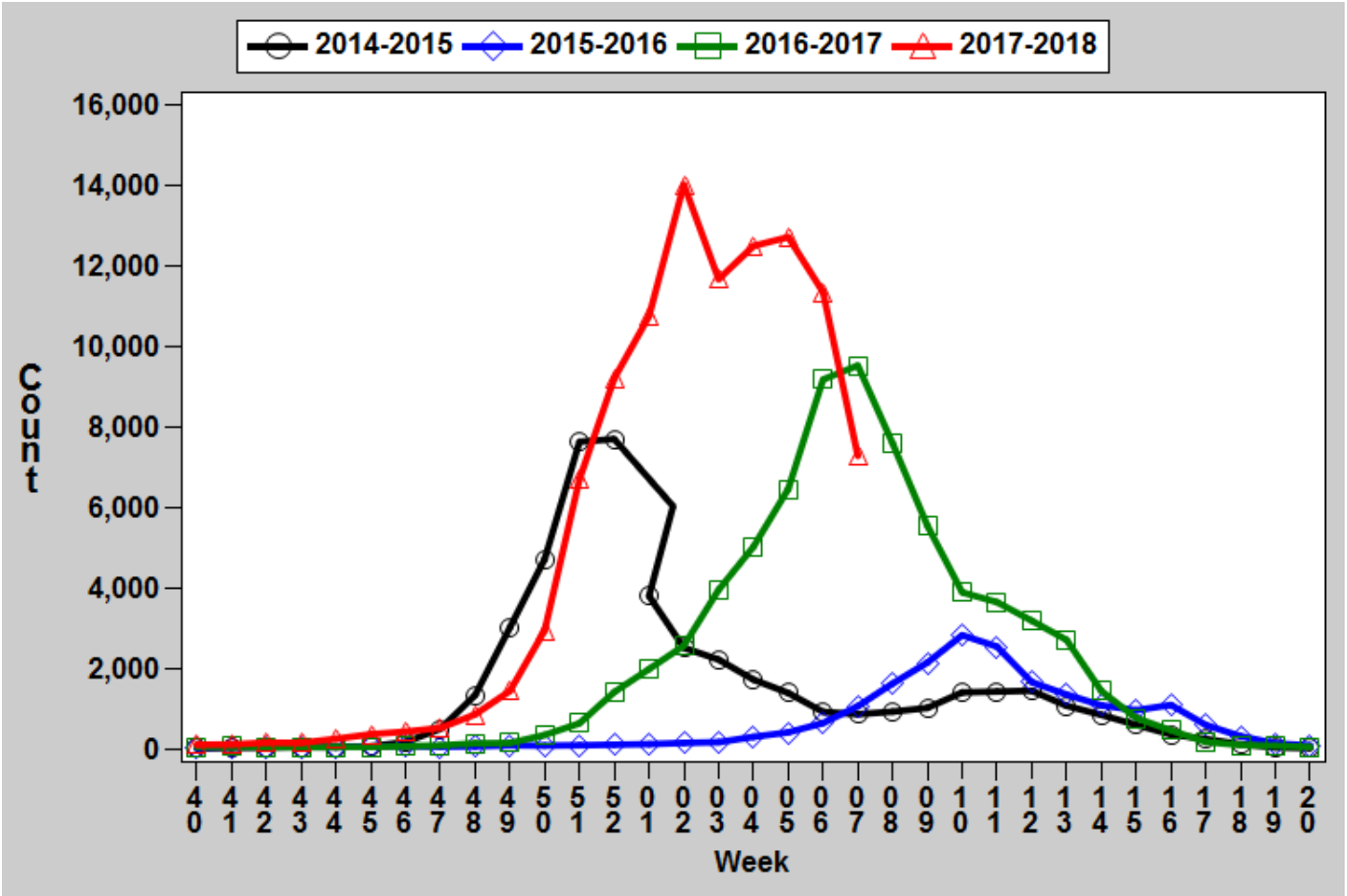
Figure 4. Number of Laboratory-positive[†] Influenza Cases by CDC Week, Missouri, 2014-2018[*]



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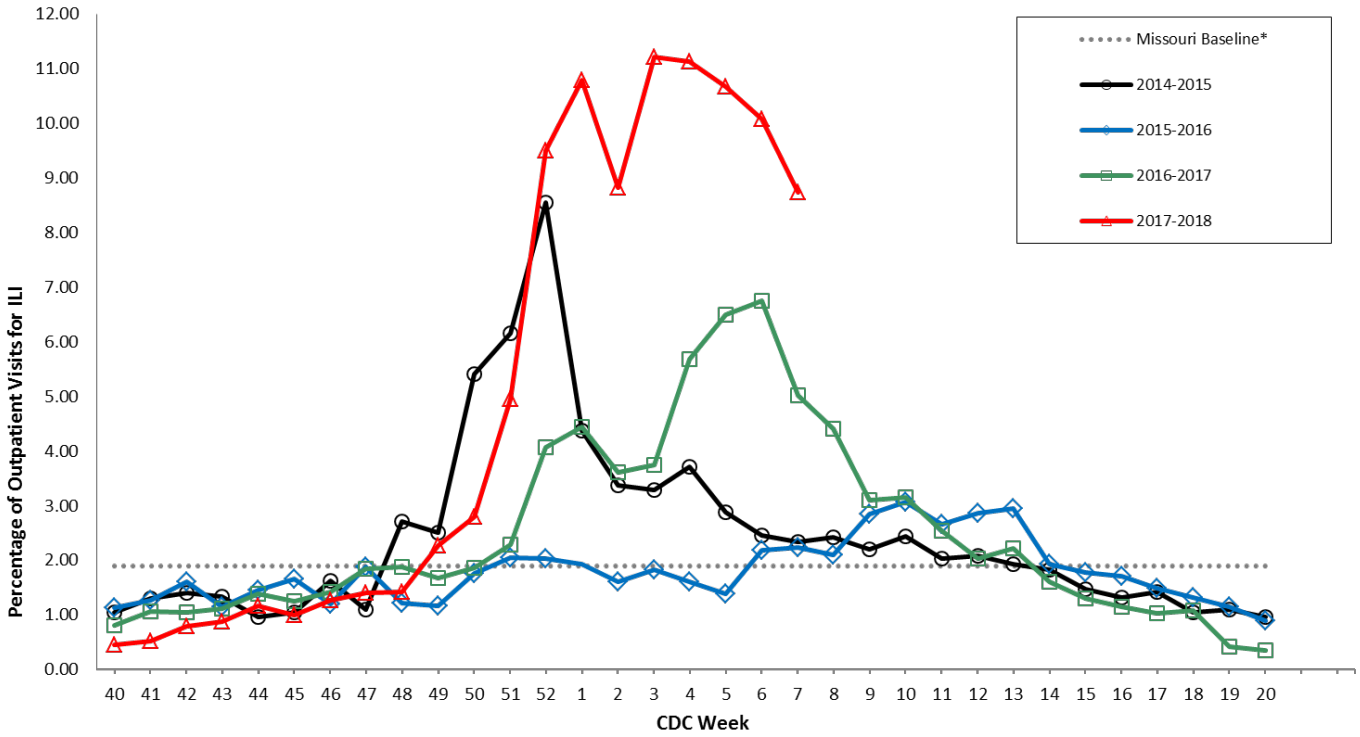
[*]2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. Week 53, 2014-2015 flu season has 3,082 reported confirmed cases. Data Source: Missouri Health Information Surveillance System (WebSurv).

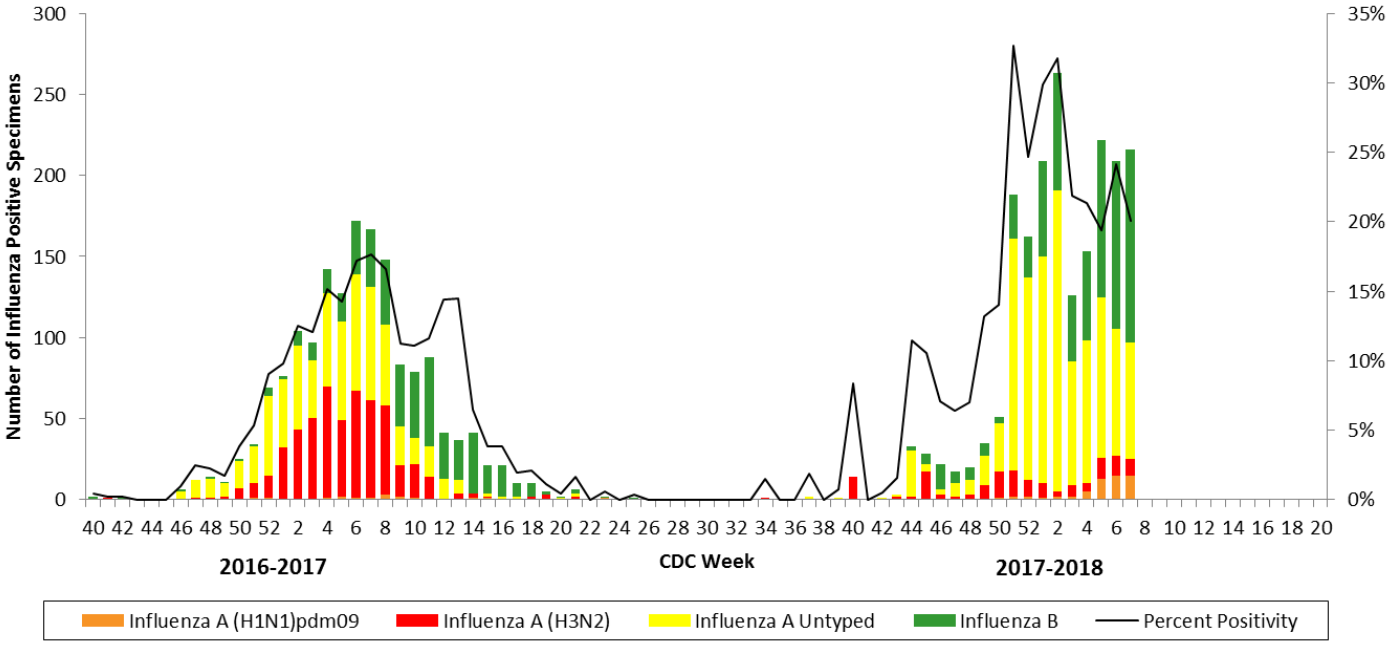
Figure 5. Percentage of Outpatient Visits for Influenza-like Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2014-2018*†



*The ILINet Region 7 (MO, IA, KS, NE) baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons, plus two standard deviations. A non-influenza week is defined as periods of two or more consecutive weeks in which each week accounted for less than 2% of the season's total number of specimens that tested positive for influenza.
Data Source: U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Centers for Disease Control and Prevention (CDC).

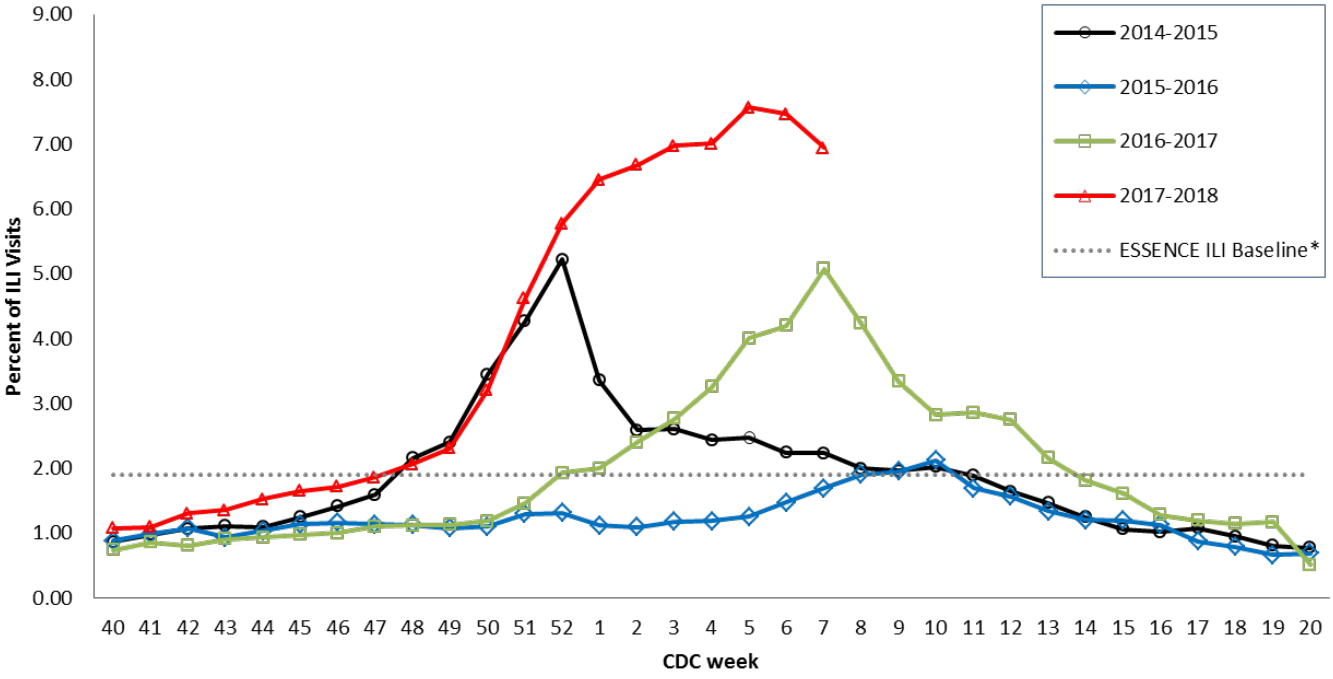
†2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of outpatient visits for ILI during Week 53 was 7.63.

Figure 6. Season-to-Date PCR (+) Tests for Influenza in Missouri



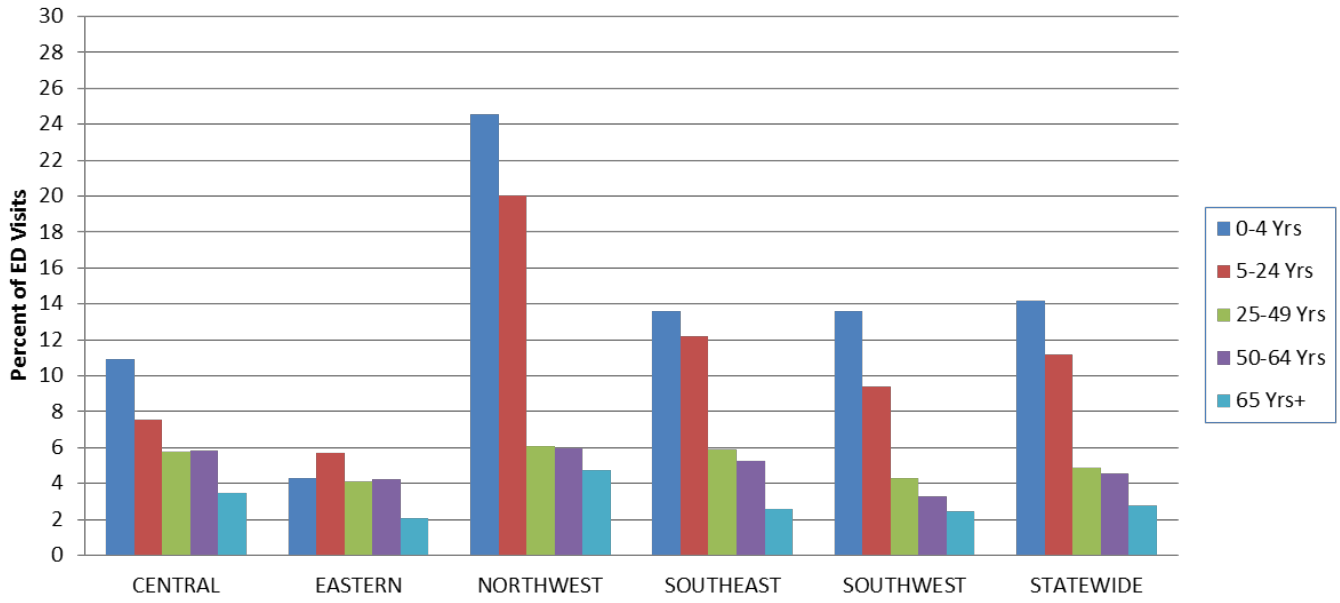
Data Source: National Respiratory and Enteric Virus Surveillance System (NREVSS), Centers for Disease Control and Prevention (CDC).
2016-2017 season-to-date through the week ending May 19, 2018 (Week 20).

Figure 7. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, 2014-2018 Influenza Seasons*†‡



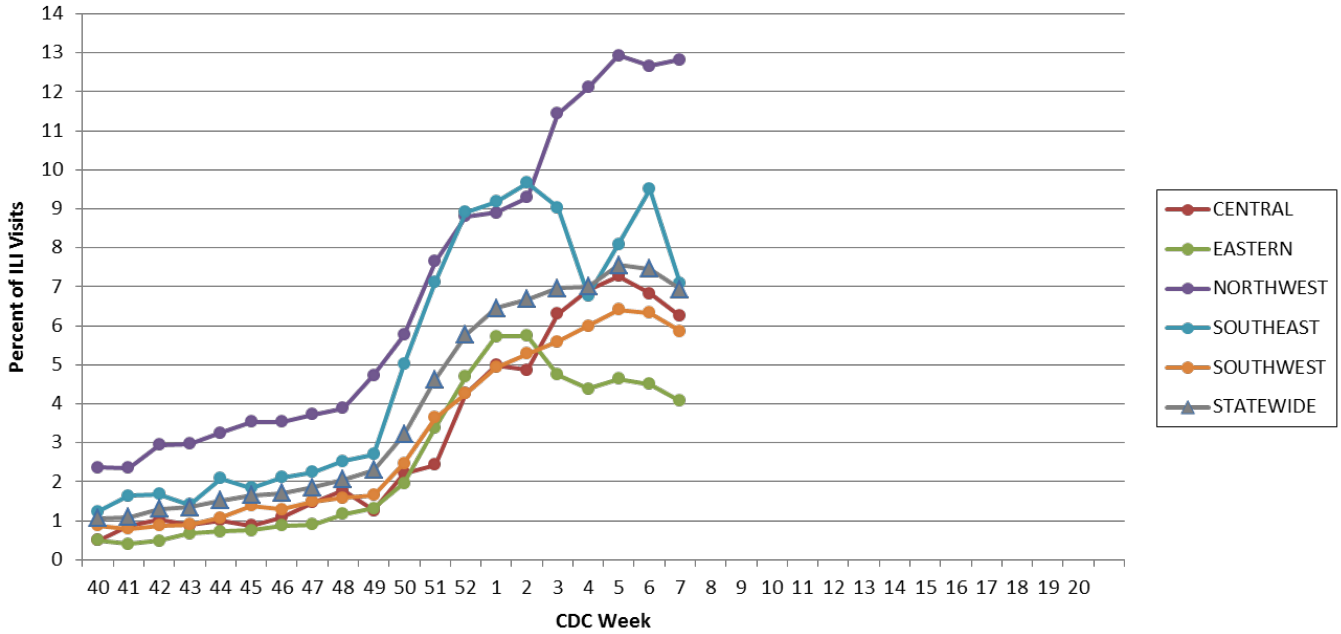
*The ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2014-16) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
†The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of visits for ILI in ESSENCE participating hospitals during Week 53 was 4.38%.
‡The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 8. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Age Group, Region and Statewide, Week 7, 2018*



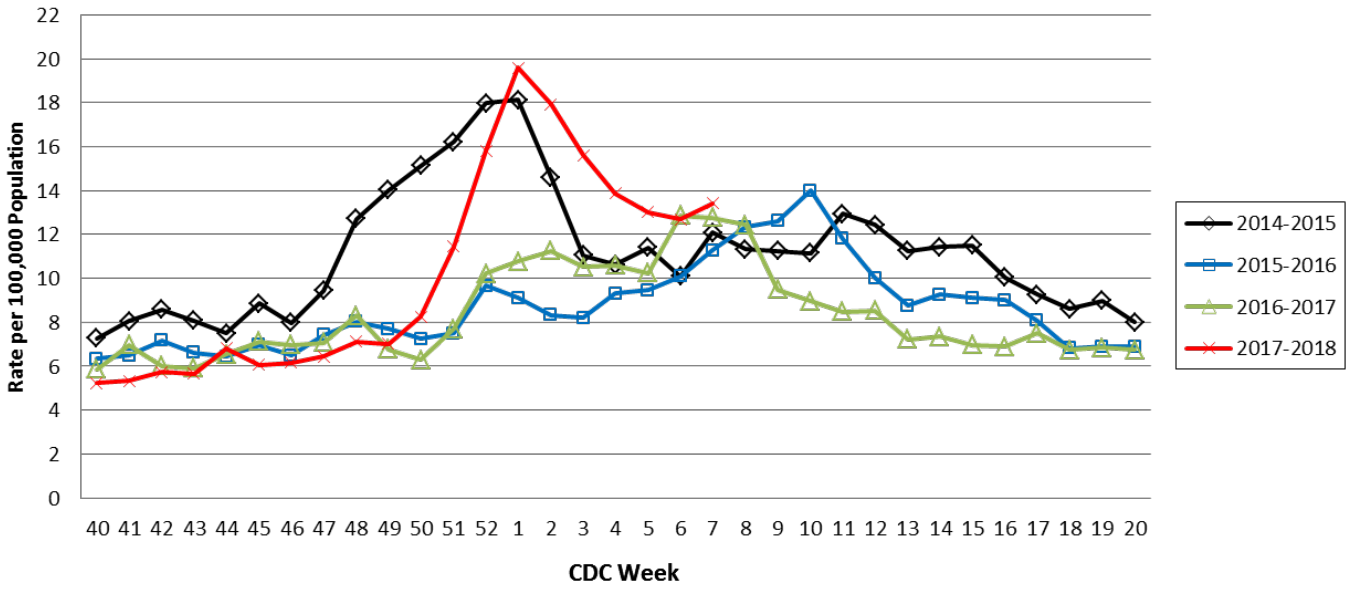
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 9. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Region and Statewide, 2017-2018 Influenza Season*



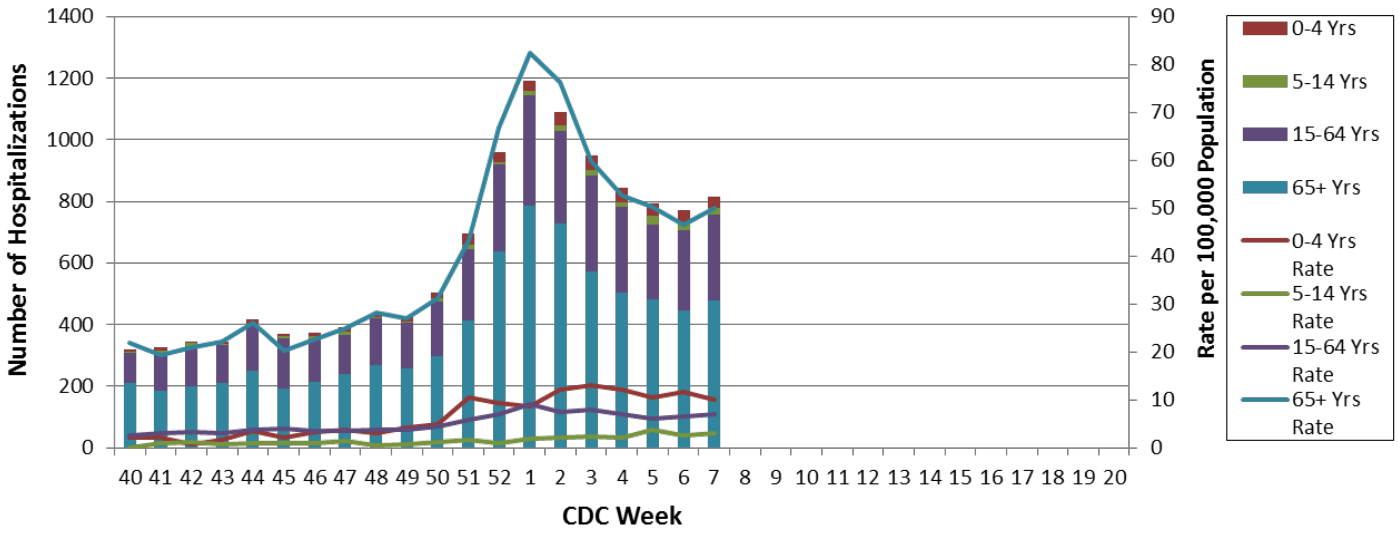
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 10. Weekly Rate of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Missouri Hospitals, 2014-2018 Influenza Seasons



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.
Population data from DHSS Population MICA 2015 (http://health.mo.gov/data/mica/mica/population.php).

Figure 11. Number of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Participating Missouri Hospitals, by Age Group, Week 7, 2017-2018 Influenza Season



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.

Additional Influenza Data Sources:

Centers for Disease Control and Prevention: National Influenza Surveillance (FluView):
http://www.cdc.gov/flu/weekly/fluactivitysurv.htm

The National Respiratory and Enteric Virus Surveillance System (NREVSS):
https://www.cdc.gov/surveillance/nrevss/

World Health Organization: International Influenza Surveillance:
http://www.who.int/influenza/surveillance_monitoring/en/

Missouri Weekly Influenza Surveillance Report
2017-2018 Influenza Season[1]

Week 8: February 18 – 24, 2018

All data are preliminary and may change as more reports are received.

Summary:

- The estimated influenza activity in Missouri is Widespread[2].

- During Week 8, a total of 5,064 laboratory-positive[3] influenza cases (2,118 influenza A, 2,855 influenza B, and 91 untyped) were reported. A season-to-date total of 112,746 laboratory-positive influenza cases (76,866 influenza A, 34,308 influenza B, and 1,572 untyped) have been reported in Missouri as of Week 8. The influenza type for reported season-to date cases includes 68% influenza A, 31% influenza B, and 1% untyped. Nineteen laboratory-positive cases of influenza (eight influenza A (H3), two influenza A (H1N1), and nine influenza B (Yamagata)) were reported by the Missouri State Public Health Laboratory (MSPHL) during Week 8.

- Influenza-like illness (ILI) activity was above baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 6.27% (Figure 5) and 5.04% (Figure 7) through ILINet and ESSENCE respectively.[4] The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution. The percentage of respiratory specimens testing positive for influenza in Missouri laboratories reporting to the National Respiratory and Enteric Virus Surveillance System (NREVSS) decreased during Week 8 (Figure 6).

- One hundred and seventy-seven influenza-associated deaths have been reported in Missouri as of Week 8.[5] During Week 7, 113 deaths involving Pneumonia and Influenza (P&I) were reported to the Bureau of Vital Records, resulting in a season-to-date total of 1,309 P&I associated deaths in Missouri.[6]

- Sixty-six outbreaks of influenza or ILI have been reported and 14 influenza or ILI-associated school closures have been reported in Missouri as of Week 8.

- Influenza activity remained elevated in the U.S. during Week 7. National influenza surveillance information is prepared by CDC and is included in the weekly FluView report, which is available online at http://www.cdc.gov/flu/weekly/fluactivitysurv.htm.

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[1]The 2017-2018 influenza season begins CDC Week 40 (week ending October 7, 2017) and ends CDC Week 39 (week ending September 29, 2018).

[2]Widespread is defined as: Outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in at least half the regions of the state with recent laboratory evidence of influenza in the state.

[3]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

[4]Influenza-like illness (ILI) is defined by ILINet as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza. ILI is defined by ESSENCE as Emergency Department chief complaints for Influenza or (FeverPlus and (Cough or SoreThroat) and not NonILIFevers).

[5]All influenza-associated deaths became reportable in Missouri in 2016.

[6]The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

Surveillance Data:

Interactive Maps

The jurisdiction-specific influenza data are provided though interactive maps available at http://arcg.is/buKzb. *Click on the jurisdiction to view the influenza data specific to that jurisdiction.*

- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, CDC Week 8**
- **Reported Week-specific Rate per 100,000 Population, CDC Week 8**
- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, Season-to-Date**
- **Reported Rate per 100,000 Population, Season-to-Date**

Data Figures

Figure 1. Number of Laboratory-positive[†] Influenza Cases by Influenza Type, Missouri, CDC Week 8 (February 18 – 24, 2018)[*]

Influenza Type	Week 6	Week 7	Week 8	2017-2018* Season-to-Date
Influenza A	6,306	4,834	2,118	76,866
Influenza B	5,503	5,097	2,855	34,308
Influenza Unknown Or Untyped	191	146	91	1,572
Total	12,000	10,077	5,064	112,746

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 2. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 8 (February 18 – 24, 2018)[*‡]

Age Group	Week 8 Cases	Week 8 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
00-04	803	214.50	17,485	4,670.64
05-24	1,906	118.79	40,308	2,512.16
25-49	998	52.16	22,414	1,171.36
50-64	694	56.13	15,959	1,290.79
65+	663	69.43	16,580	1,736.27
Total	5,064	83.24	112,746	1,853.26

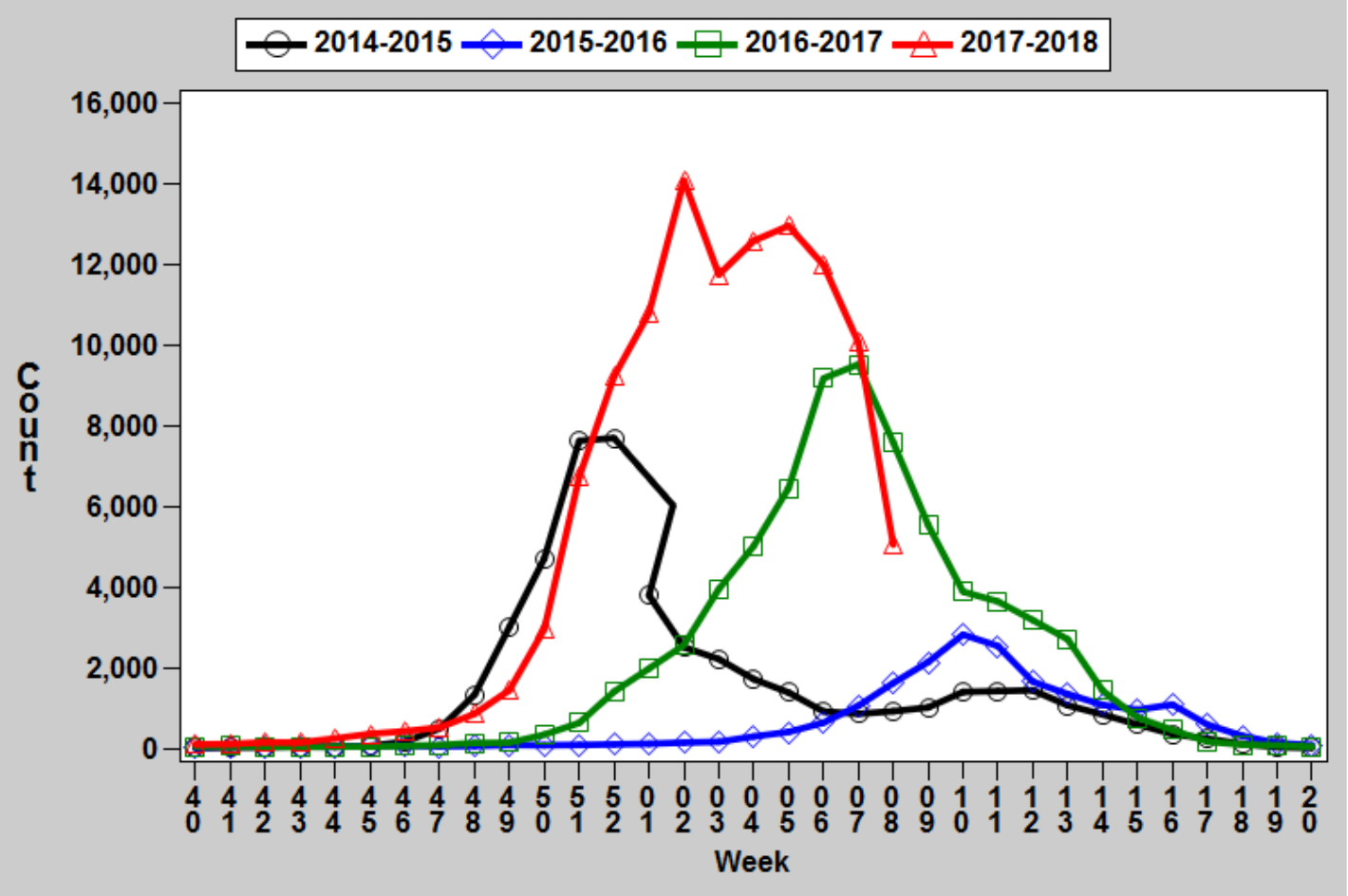
[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 3. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Region, Missouri, CDC Week 8 (February 18 – 24, 2018)[*‡]

Region	Week 8 Cases	Week 8 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
Central	473	69.87	15,112	2,232.21
Eastern	1,527	67.38	34,812	1,536.17
Northwest	1,719	107.60	31,256	1,956.53
Southeast	674	142.89	13,140	2,785.67
Southwest	671	62.63	18,426	1,719.97
Total	5,064	83.24	112,746	1,853.26

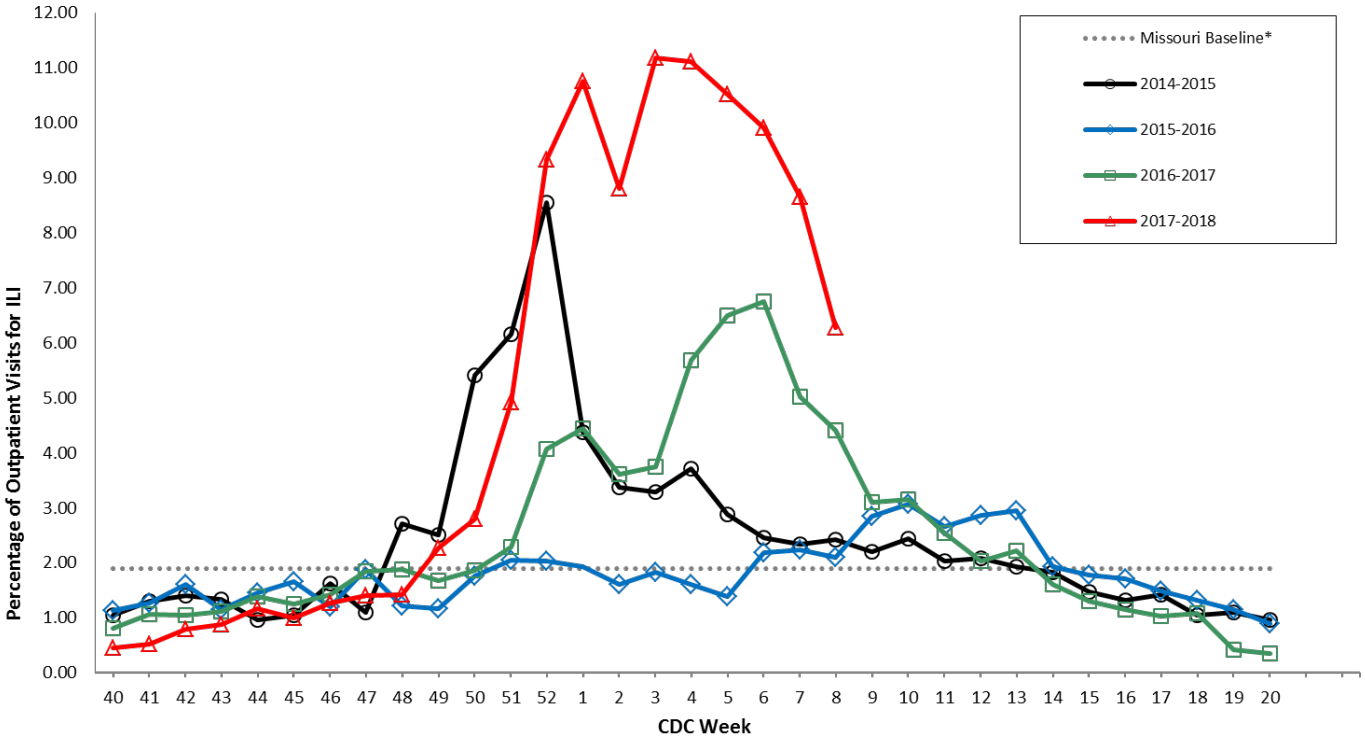
[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 4. Number of Laboratory-positive[†] Influenza Cases by CDC Week, Missouri, 2014-2018[*]



[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. Week 53, 2014-2015 flu season has 3,082 reported confirmed cases. Data Source: Missouri Health Information Surveillance System (WebSurv).

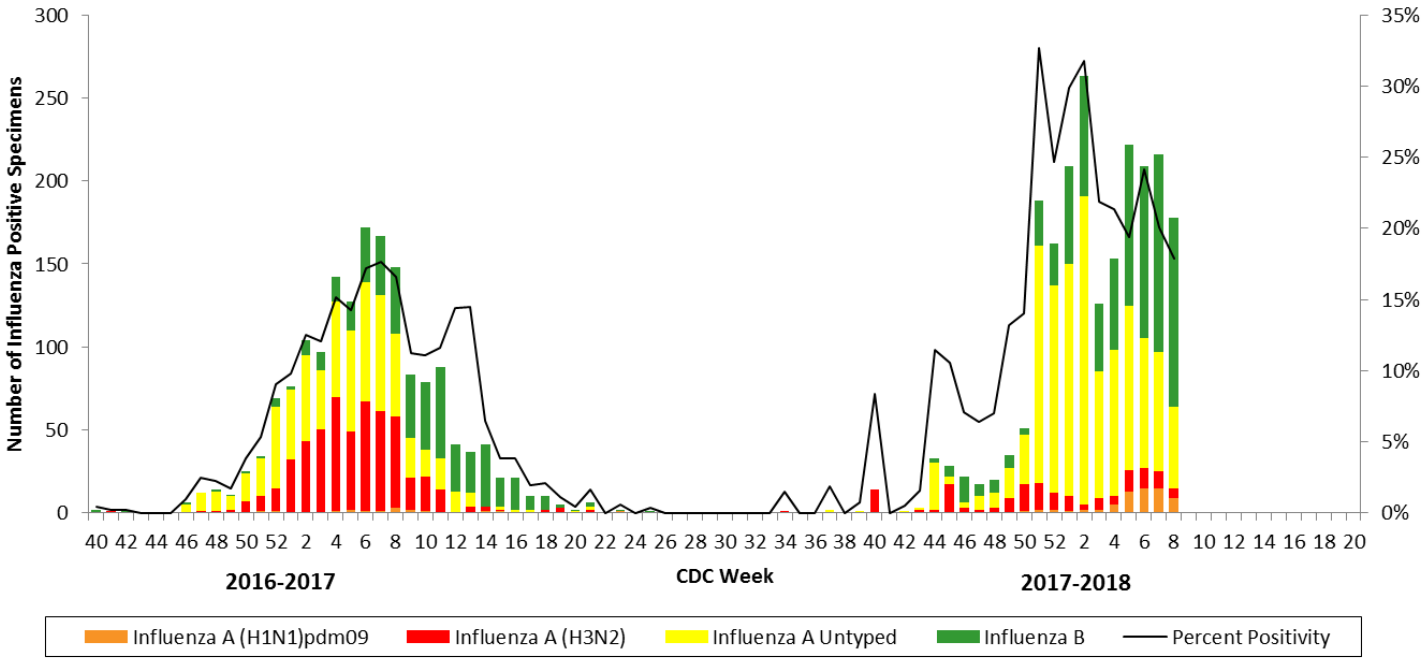
Figure 5. Percentage of Outpatient Visits for Influenza-like Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2014-2018*†



*The ILINet Region 7 (MO, IA, KS, NE) baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons, plus two standard deviations. A non-influenza week is defined as periods of two or more consecutive weeks in which each week accounted for less than 2% of the season's total number of specimens that tested positive for influenza.
Data Source: U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Centers for Disease Control and Prevention (CDC).

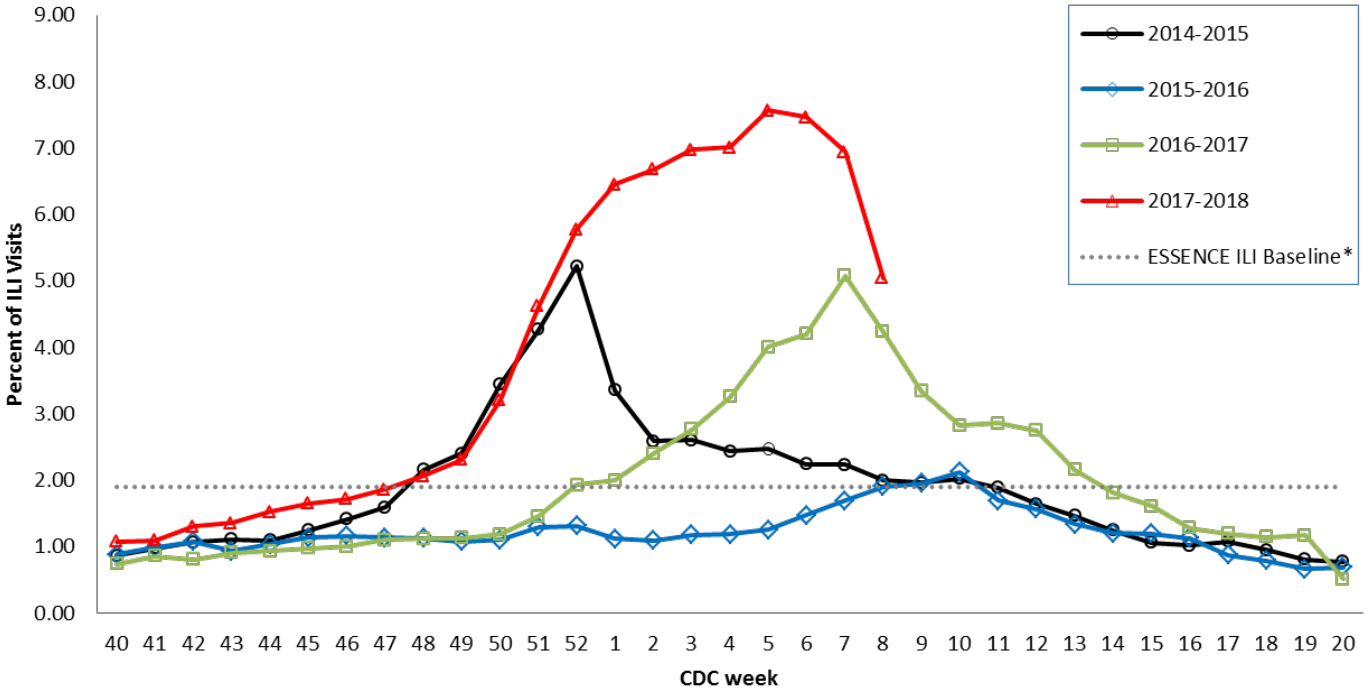
†2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of outpatient visits for ILI during Week 53 was 7.63.

Figure 6. Season-to-Date PCR (+) Tests for Influenza in Missouri



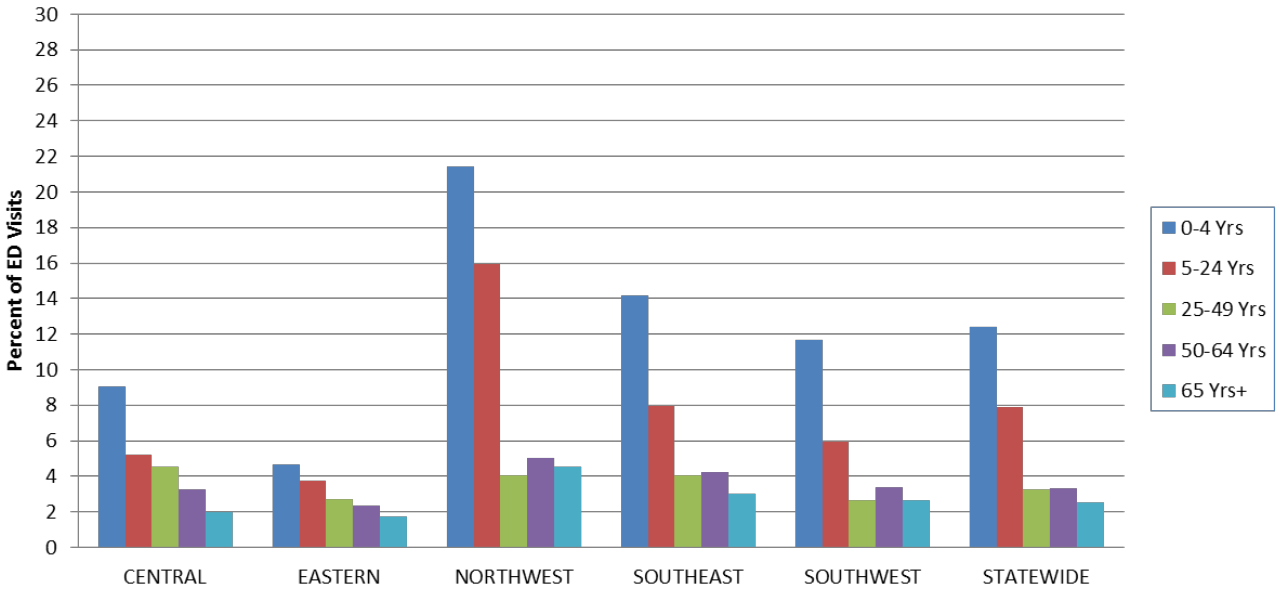
Data Source: National Respiratory and Enteric Virus Surveillance System (NREVSS), Centers for Disease Control and Prevention (CDC).
2016-2017 season-to-date through the week ending May 19, 2018 (Week 20).

Figure 7. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, 2014-2018 Influenza Seasons*†‡



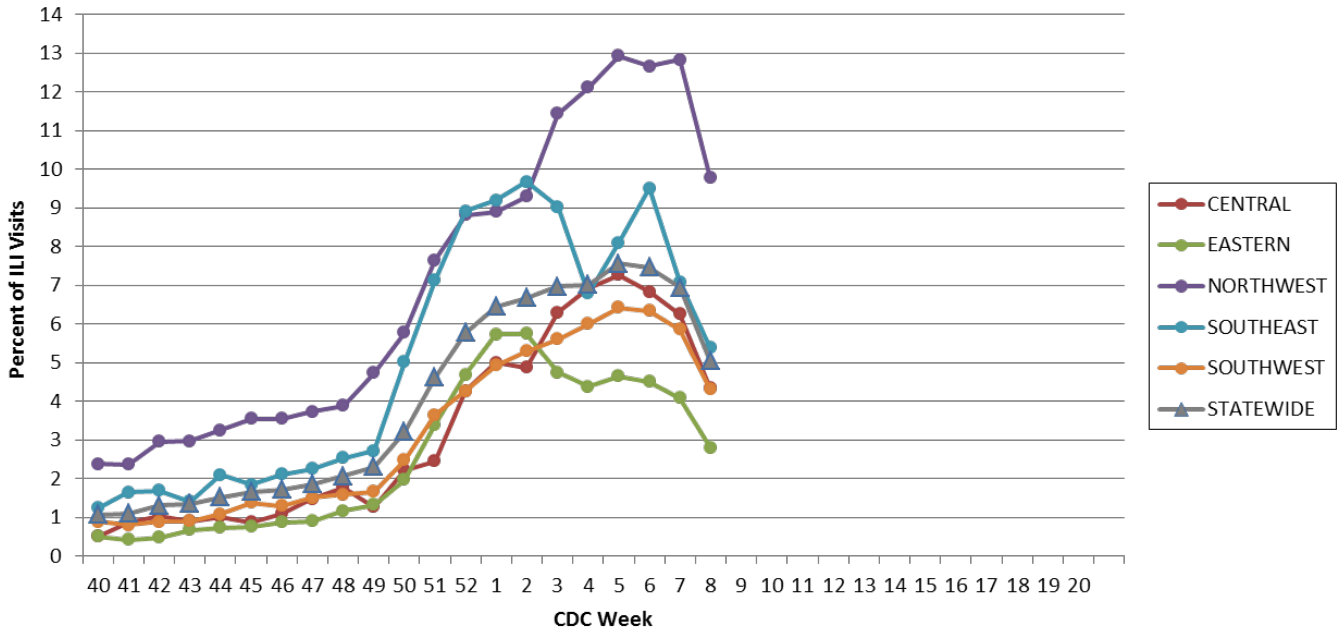
*The ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2014-16) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
†The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of visits for ILI in ESSENCE participating hospitals during Week 53 was 4.38%.
‡The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 8. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Age Group, Region and Statewide, Week 8, 2018*



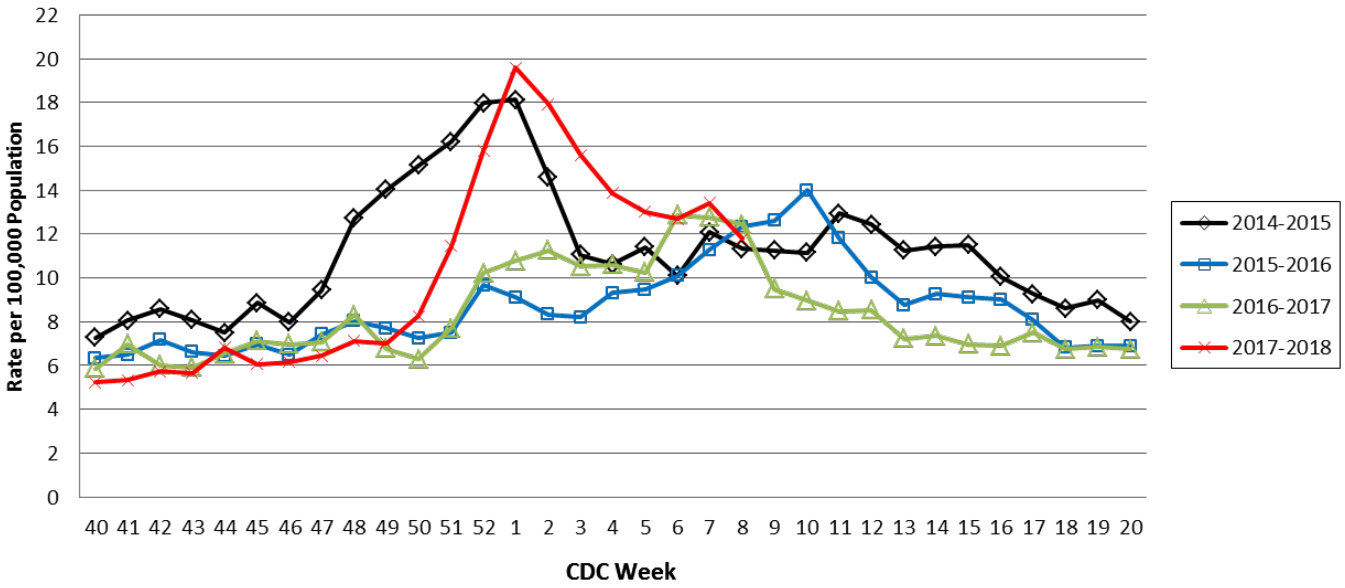
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 9. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Region and Statewide, 2017-2018 Influenza Season*



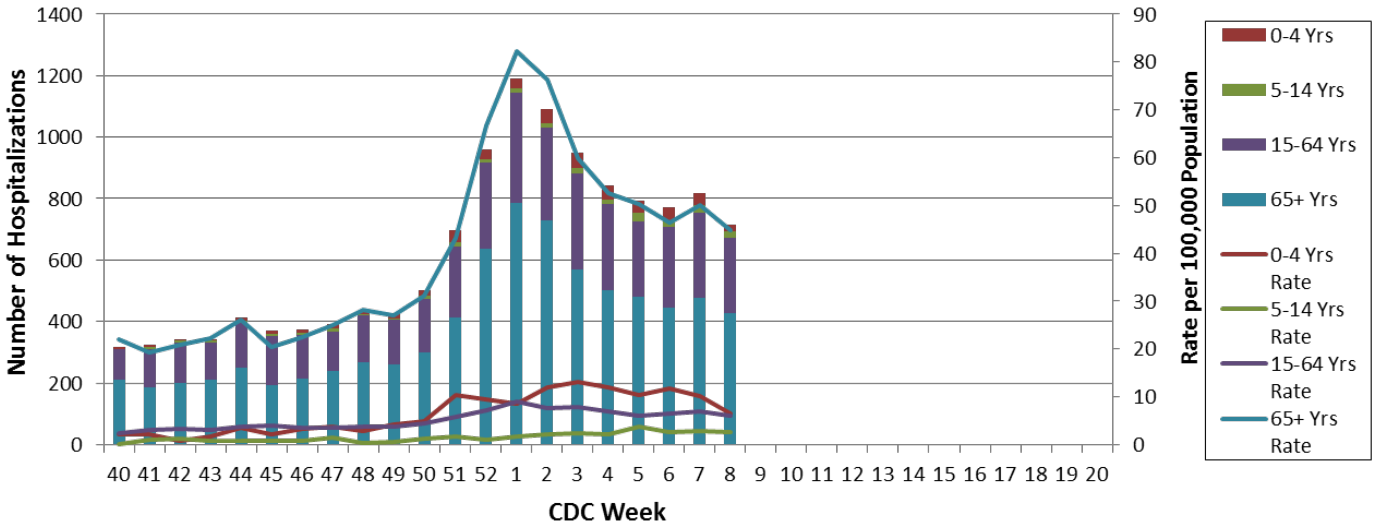
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 10. Weekly Rate of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Missouri Hospitals, 2014-2018 Influenza Seasons



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.
Population data from DHSS Population MICA 2015 (http://health.mo.gov/data/mica/mica/population.php).

Figure 11. Number of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Participating Missouri Hospitals, by Age Group, Week 8, 2017-2018 Influenza Season



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.

Additional Influenza Data Sources:

Centers for Disease Control and Prevention: National Influenza Surveillance (FluView):
http://www.cdc.gov/flu/weekly/fluactivitysurv.htm

The National Respiratory and Enteric Virus Surveillance System (NREVSS):
https://www.cdc.gov/surveillance/nrevss/

World Health Organization: International Influenza Surveillance:
http://www.who.int/influenza/surveillance_monitoring/en/

Missouri Weekly Influenza Surveillance Report 2017-2018 Influenza Season[1]

Week 9: February 25 – March 3, 2018

All data are preliminary and may change as more reports are received.

Summary:

- The estimated influenza activity in Missouri is Widespread[2].

- During Week 9, a total of 3,117 laboratory-positive[3] influenza cases (1,304 influenza A, 1,741 influenza B, and 72 untyped) were reported. A season-to-date total of 119,071 laboratory-positive influenza cases (79,786 influenza A, 37,594 influenza B, and 1,691 untyped) have been reported in Missouri as of Week 9. The influenza type for reported season-to date cases includes 67% influenza A, 32% influenza B, and 1% untyped. Fourteen laboratory-positive cases of influenza (two influenza A (H3), two influenza A (H1N1), and 10 influenza B (Yamagata)) were reported by the Missouri State Public Health Laboratory (MSPHL) during Week 9.

- Influenza-like illness (ILI) activity was above baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 2.72% (Figure 5) and 3.44% (Figure 7) through ILINet and ESSENCE respectively.[4] The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution. The percentage of respiratory specimens testing positive for influenza in Missouri laboratories reporting to the National Respiratory and Enteric Virus Surveillance System (NREVSS) decreased during Week 9 (Figure 6).

- One hundred and ninety-three influenza-associated deaths have been reported in Missouri as of Week 9.[5] During Week 8, 91 deaths involving Pneumonia and Influenza (P&I) were reported to the Bureau of Vital Records, resulting in a season-to-date total of 1,400 P&I associated deaths in Missouri.[6]

- Sixty-six outbreaks of influenza or ILI have been reported and 15 influenza or ILI-associated school closures have been reported in Missouri as of Week 9.

- Influenza activity decreased in the U.S. during Week 8. National influenza surveillance information is prepared by CDC and is included in the weekly FluView report, which is available online at http://www.cdc.gov/flu/weekly/fluactivitysurv.htm.

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[1]The 2017-2018 influenza season begins CDC Week 40 (week ending October 7, 2017) and ends CDC Week 39 (week ending September 29, 2018).

[2]Widespread is defined as: Outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in at least half the regions of the state with recent laboratory evidence of influenza in the state.

[3]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

[4]Influenza-like illness (ILI) is defined by ILINet as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza. ILI is defined by ESSENCE as Emergency Department chief complaints for Influenza or (FeverPlus and (Cough or SoreThroat) and not NonILIFevers).

[5]All influenza-associated deaths became reportable in Missouri in 2016.

[6]The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

Surveillance Data:

Interactive Maps

The jurisdiction-specific influenza data are provided though interactive maps available at http://arcg.is/1mWHuX. *Click on the jurisdiction to view the influenza data specific to that jurisdiction.*

- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, CDC Week 9**
- **Reported Week-specific Rate per 100,000 Population, CDC Week 9**
- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, Season-to-Date**
- **Reported Rate per 100,000 Population, Season-to-Date**

Data Figures

Figure 1. Number of Laboratory-positive† Influenza Cases by Influenza Type, Missouri, CDC Week 9 (February 25 – March 3, 2018)*

Influenza Type	Week 7	Week 8	Week 9	2017-2018* Season-to-Date
Influenza A	5,189	2,765	1,304	79,786
Influenza B	5,423	3,773	1,741	37,594
Influenza Unknown Or Untyped	169	118	72	1,691
Total	10,781	6,656	3,117	119,071

†Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 2. Number of Laboratory-positive† Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 9 (February 25 – March 3, 2018)*‡

Age Group	Week 9 Cases	Week 9 Rate‡	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate‡
00-04	514	137.30	18,502	4,942.30
05-24	1,009	62.89	42,579	2,653.70
25-49	621	32.45	23,651	1,236.01
50-64	445	35.99	16,823	1,360.67
65+	528	55.29	17,516	1,834.29
Total	3,117	51.24	119,071	1,957.22

†Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
‡Incidence Rate per 100,000 population

Figure 3. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Region, Missouri, CDC Week 9 (February 25 – March 3, 2018)[*‡]

Region	Week 9 Cases	Week 9 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
Central	558	82.42	16,205	2,393.66
Eastern	938	41.39	36,270	1,600.51
Northwest	814	50.95	33,333	2,086.55
Southeast	420	89.04	13,803	2,926.23
Southwest	387	36.12	19,460	1,816.48
Total	3,117	51.24	119,071	1,957.22

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
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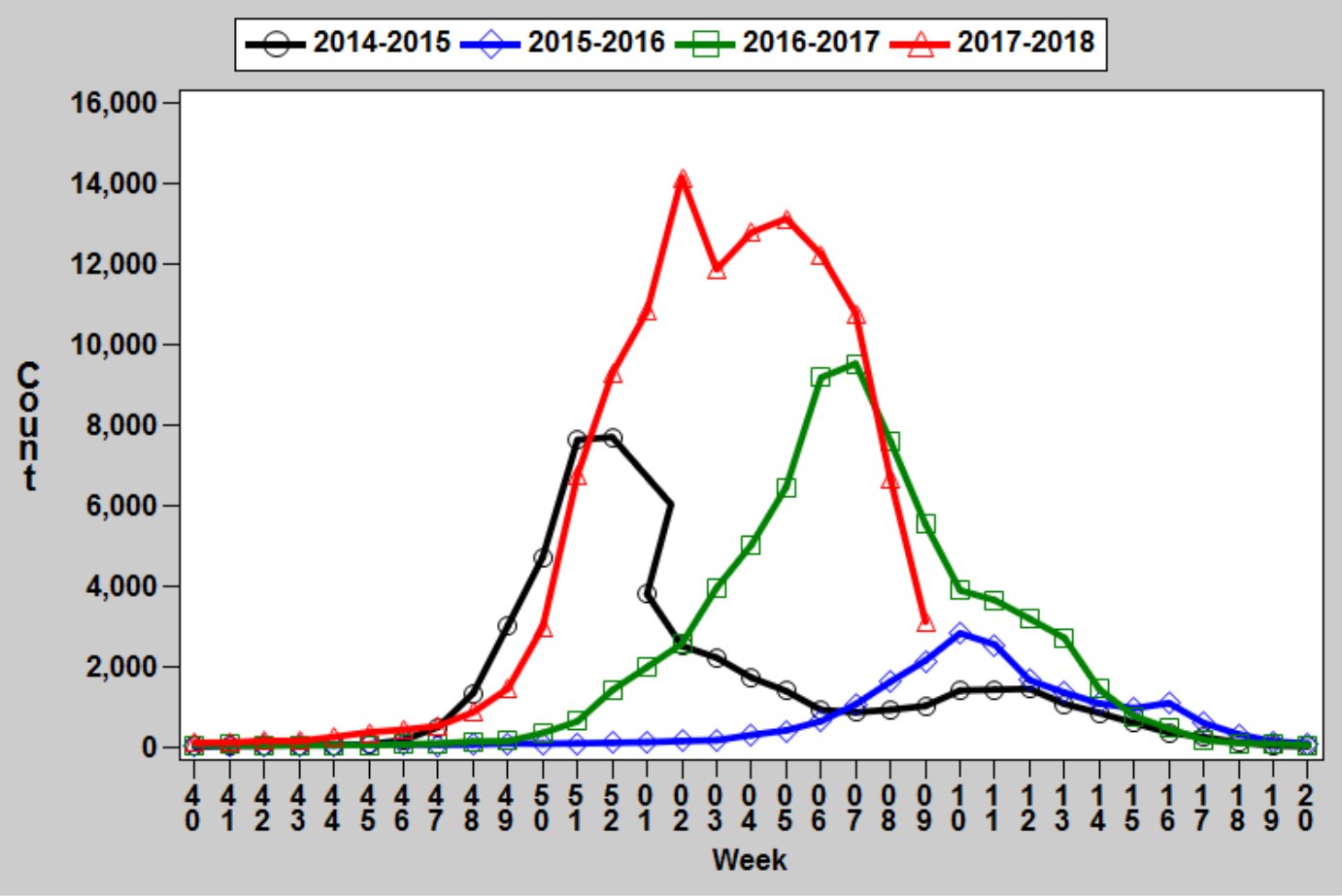
Figure 4. Number of Laboratory-positive[†] Influenza Cases by CDC Week, Missouri, 2014-2018[*]



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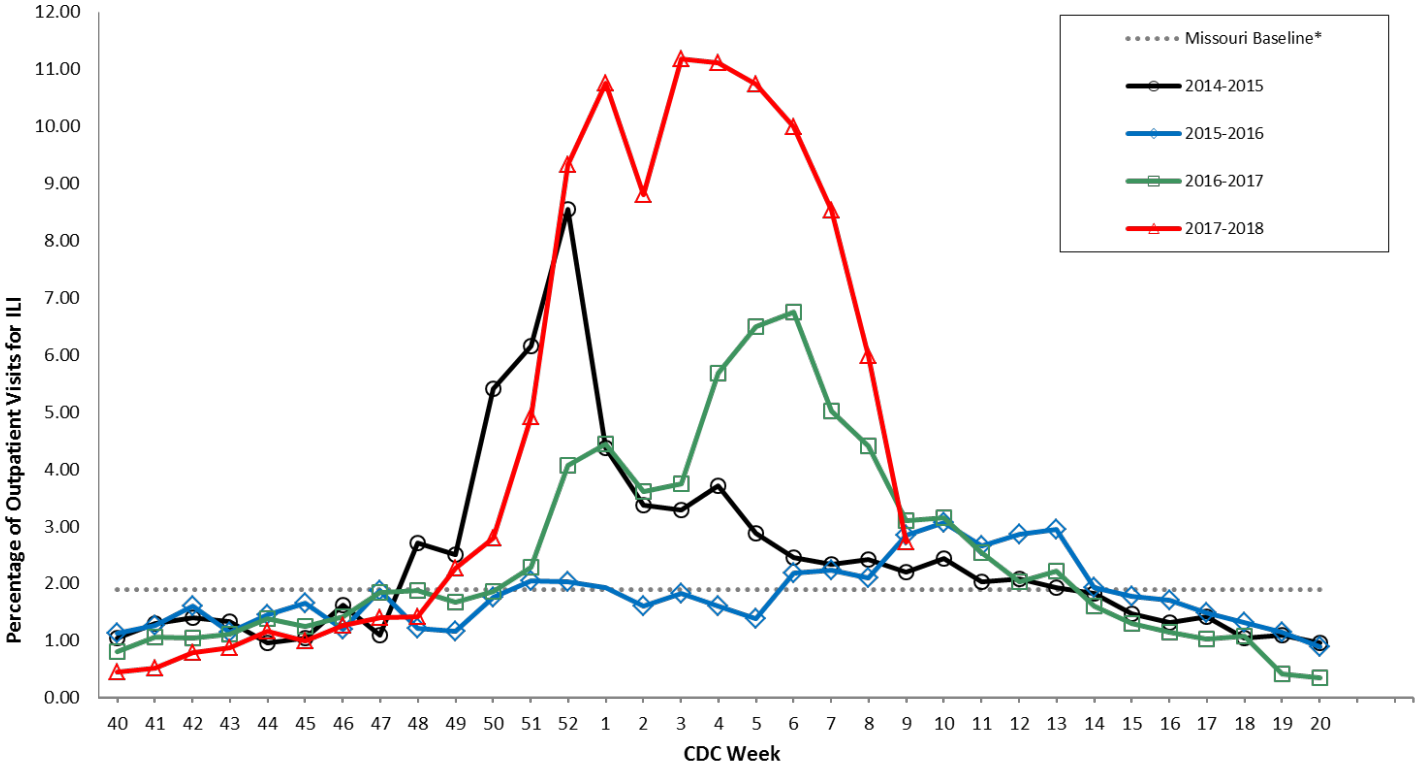
[*]2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. Week 53, 2014-2015 flu season has 3,082 reported confirmed cases. Data Source: Missouri Health Information Surveillance System (WebSurv).

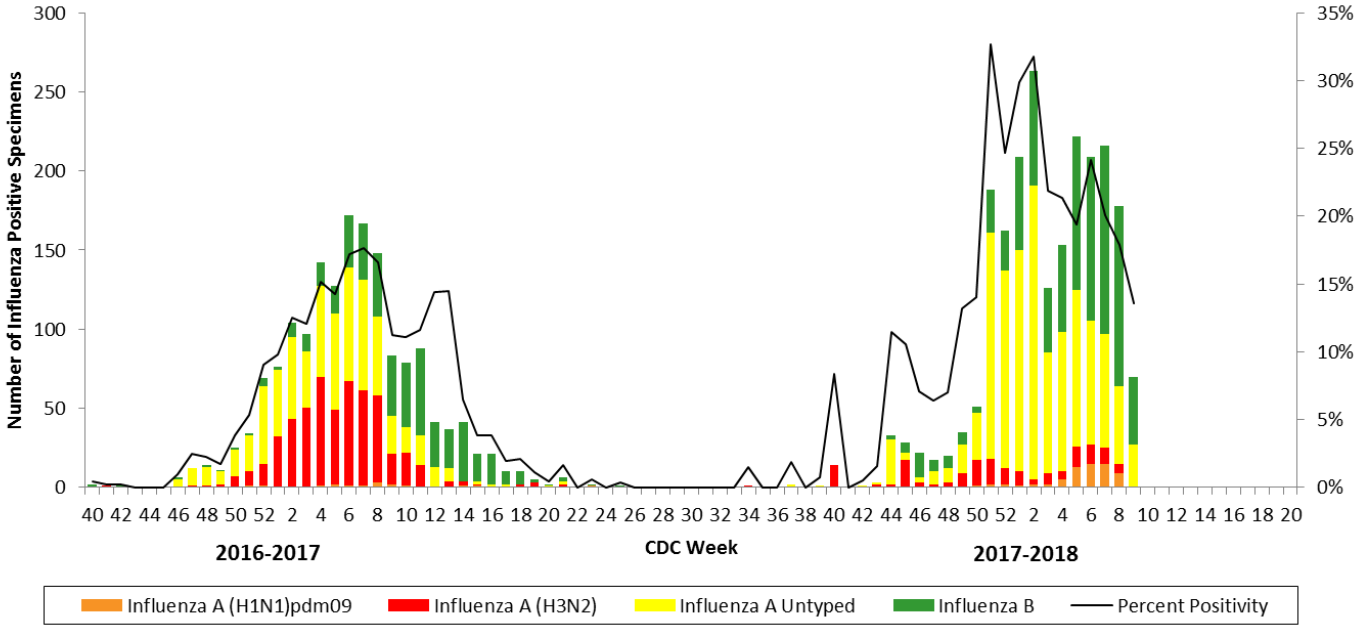
Figure 5. Percentage of Outpatient Visits for Influenza-like Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2014-2018*†



*The ILINet Region 7 (MO, IA, KS, NE) baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons, plus two standard deviations. A non-influenza week is defined as periods of two or more consecutive weeks in which each week accounted for less than 2% of the season's total number of specimens that tested positive for influenza.
Data Source: U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Centers for Disease Control and Prevention (CDC).

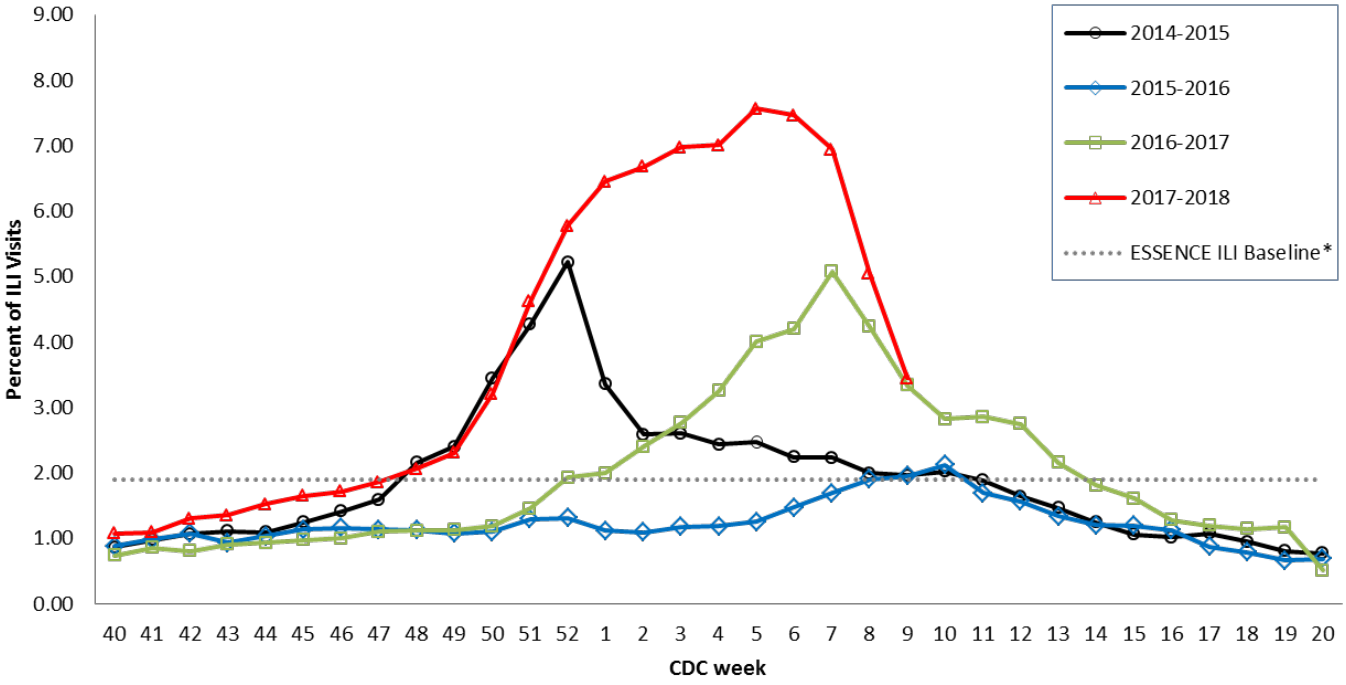
†2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of outpatient visits for ILI during Week 53 was 7.63.

Figure 6. Season-to-Date PCR (+) Tests for Influenza in Missouri



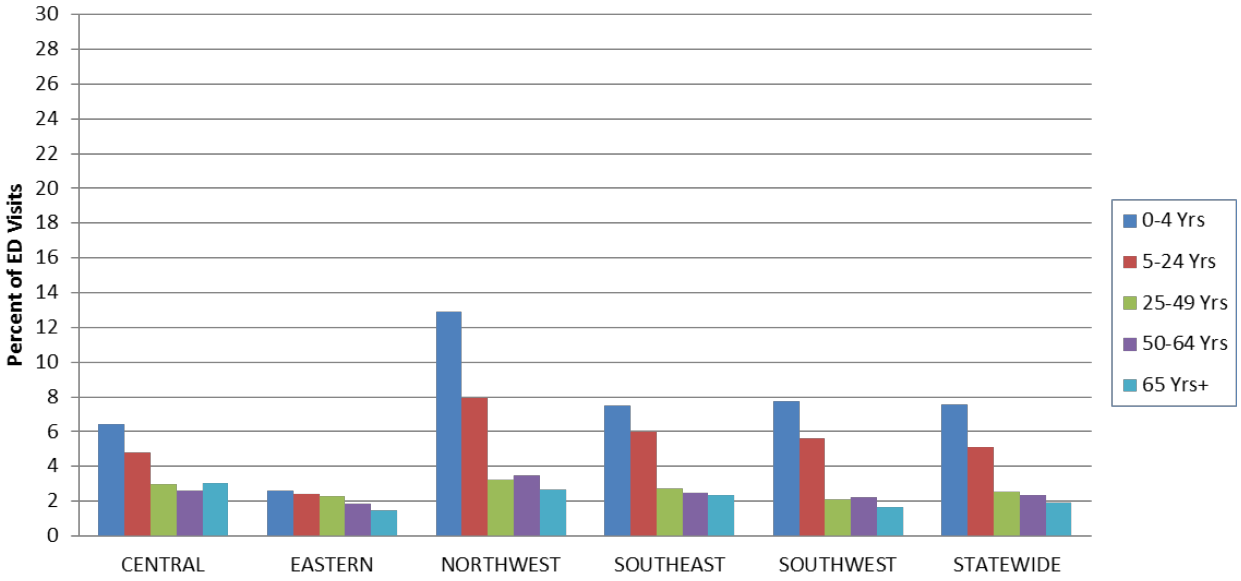
Data Source: National Respiratory and Enteric Virus Surveillance System (NREVSS), Centers for Disease Control and Prevention (CDC).
2016-2017 season-to-date through the week ending May 19, 2018 (Week 20).

Figure 7. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, 2014-2018 Influenza Seasons*†‡



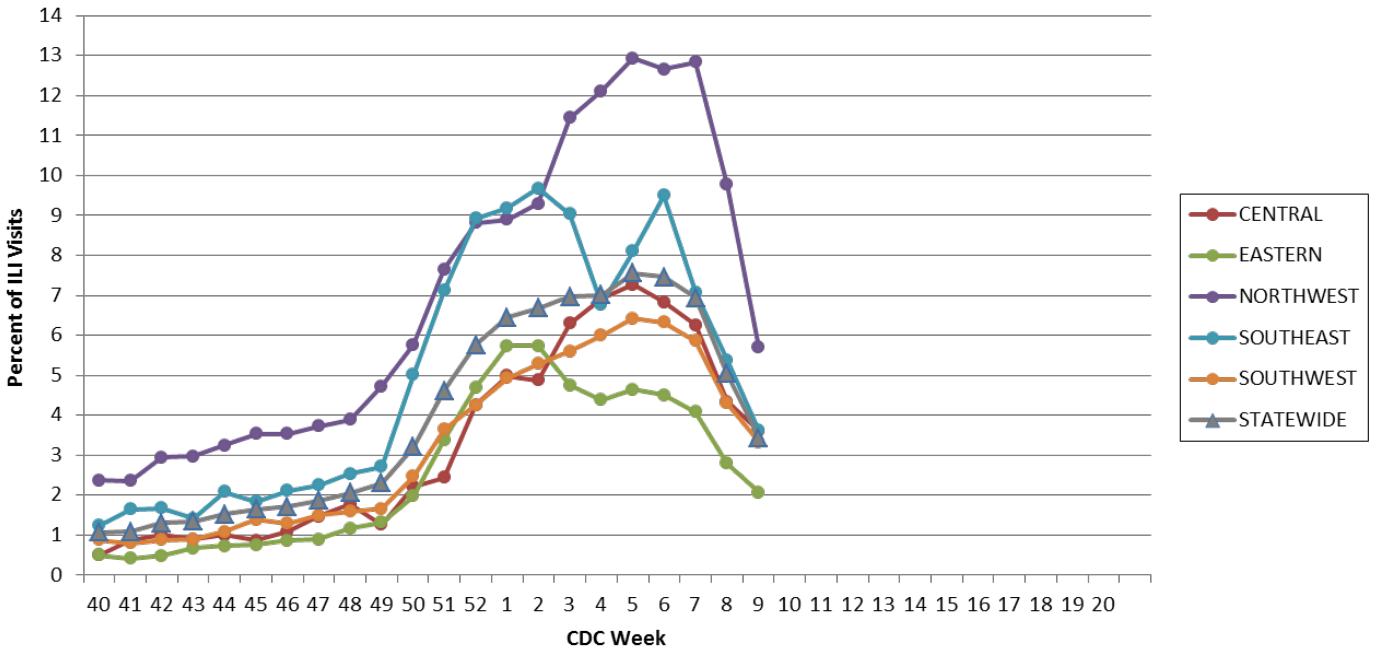
*The ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2014-16) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
†The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of visits for ILI in ESSENCE participating hospitals during Week 53 was 4.38%.
‡The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 8. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Age Group, Region and Statewide, Week 9, 2018*



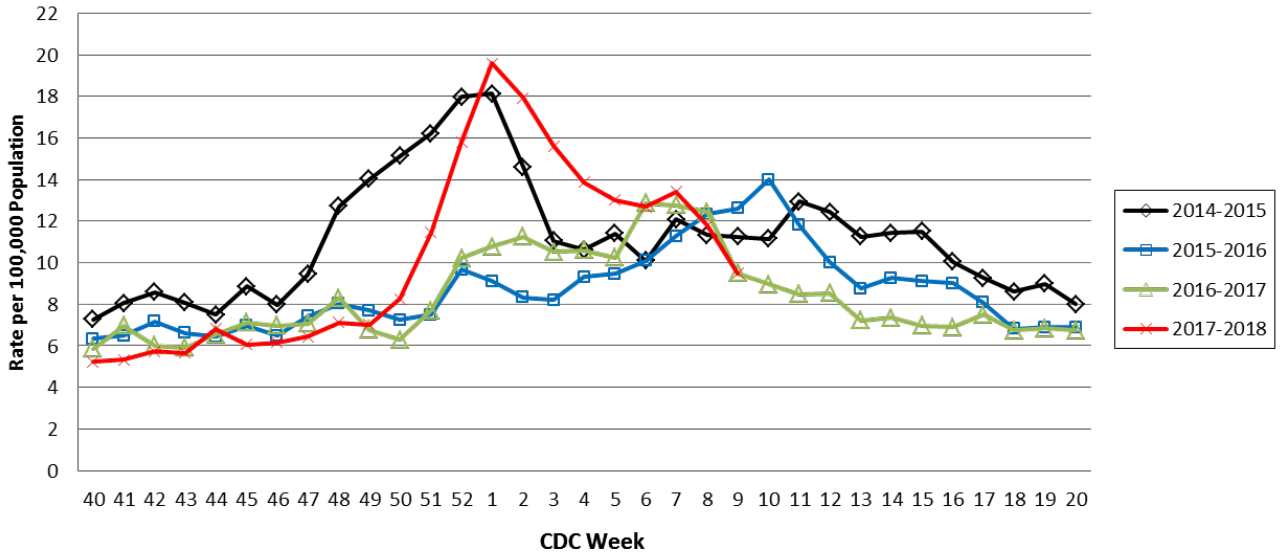
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 9. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Region and Statewide, 2017-2018 Influenza Season*



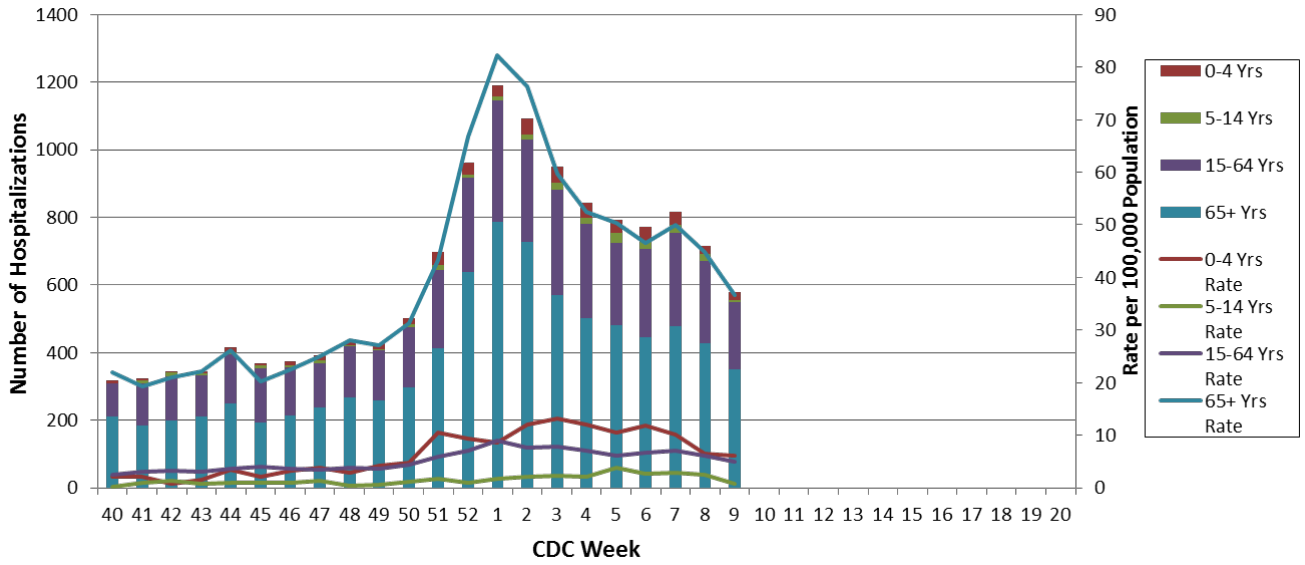
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 10. Weekly Rate of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Missouri Hospitals, 2014-2018 Influenza Seasons



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.
Population data from DHSS Population MICA 2015 (http://health.mo.gov/data/mica/mica/population.php).

Figure 11. Number of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Participating Missouri Hospitals, by Age Group, Week 9, 2017-2018 Influenza Season



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.

Additional Influenza Data Sources:

Centers for Disease Control and Prevention: National Influenza Surveillance (FluView):
http://www.cdc.gov/flu/weekly/fluactivitysurv.htm

The National Respiratory and Enteric Virus Surveillance System (NREVSS):
https://www.cdc.gov/surveillance/nrevss/

World Health Organization: International Influenza Surveillance:
http://www.who.int/influenza/surveillance_monitoring/en/

Missouri Weekly Influenza Surveillance Report 2017-2018 Influenza Season[1]

Week 10: March 4 – 10, 2018

All data are preliminary and may change as more reports are received.

Summary:

- The estimated influenza activity in Missouri decreased to Regional[2].

- During Week 10, a total of 2,004 laboratory-positive[3] influenza cases (804 influenza A, 1,167 influenza B, and 33 untyped) were reported. A season-to-date total of 124,459 laboratory-positive influenza cases (81,836 influenza A, 40,858 influenza B, and 1,765 untyped) have been reported in Missouri as of Week 10. The influenza type for reported season-to date cases includes 66% influenza A, 33% influenza B, and 1% untyped. Eleven laboratory-positive cases of influenza (three influenza A (H3), three influenza A (H1N1), and five influenza B (Yamagata)) were reported by the Missouri State Public Health Laboratory (MSPHL) during Week 10.

- Influenza-like illness (ILI) activity was above baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 4.68% (Figure 5) and 2.85% (Figure 7) through ILINet and ESSENCE respectively.[4] The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution. The percentage of respiratory specimens testing positive for influenza in Missouri laboratories reporting to the National Respiratory and Enteric Virus Surveillance System (NREVSS) increased slightly during Week 10 (Figure 6).

- Two hundred and nineteen influenza-associated deaths have been reported in Missouri as of Week 10.[5] During Week 9, 79 deaths involving Pneumonia and Influenza (P&I) were reported to the Bureau of Vital Records, resulting in a season-to-date total of 1,479 P&I associated deaths in Missouri.[6]

- Sixty-six outbreaks of influenza or ILI have been reported and 15 influenza or ILI-associated school closures have been reported in Missouri as of Week 10.

- Influenza activity decreased in the U.S. during Week 9. National influenza surveillance information is prepared by CDC and is included in the weekly FluView report, which is available online at http://www.cdc.gov/flu/weekly/fluactivitysurv.htm.

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[1]The 2017-2018 influenza season begins CDC Week 40 (week ending October 7, 2017) and ends CDC Week 39 (week ending September 29, 2018).

[2]Regional is defined as: Outbreaks of influenza or increases in ILI and recent laboratory confirmed influenza in at least two but less than half the regions of the state with recent laboratory evidence of influenza in those regions.

[3]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

[4]Influenza-like illness (ILI) is defined by ILINet as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza. ILI is defined by ESSENCE as Emergency Department chief complaints for Influenza or (FeverPlus and (Cough or SoreThroat) and not NonILIFevers).

[5]All influenza-associated deaths became reportable in Missouri in 2016.

[6]The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

Surveillance Data:

Interactive Maps

The jurisdiction-specific influenza data are provided though interactive maps available at http://arcg.is/1f0PKD0. *Click on the jurisdiction to view the influenza data specific to that jurisdiction.*

- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, CDC Week 10**
- **Reported Week-specific Rate per 100,000 Population, CDC Week 10**
- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, Season-to-Date**
- **Reported Rate per 100,000 Population, Season-to-Date**

Data Figures

Figure 1. Number of Laboratory-positive† Influenza Cases by Influenza Type, Missouri, CDC Week 10 (March 4 – 10, 2018)*

Influenza Type	Week 8	Week 9	Week 10	2017-2018* Season-to-Date
Influenza A	2,953	1,826	804	81,836
Influenza B	4,182	2,645	1,167	40,858
Influenza Unknown Or Untyped	119	92	33	1,765
Total	7,254	4,563	2,004	124,459

†Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 2. Number of Laboratory-positive† Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 10 (March 4 – 10, 2018)*‡

Age Group	Week 10 Cases	Week 10 Rate‡	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate‡
00-04	330	88.15	19,286	5,151.73
05-24	642	40.01	44,494	2,773.05
25-49	387	20.22	24,775	1,294.75
50-64	308	24.91	17,637	1,426.51
65+	337	35.29	18,267	1,912.93
Total	2,004	32.94	124,459	2,045.79

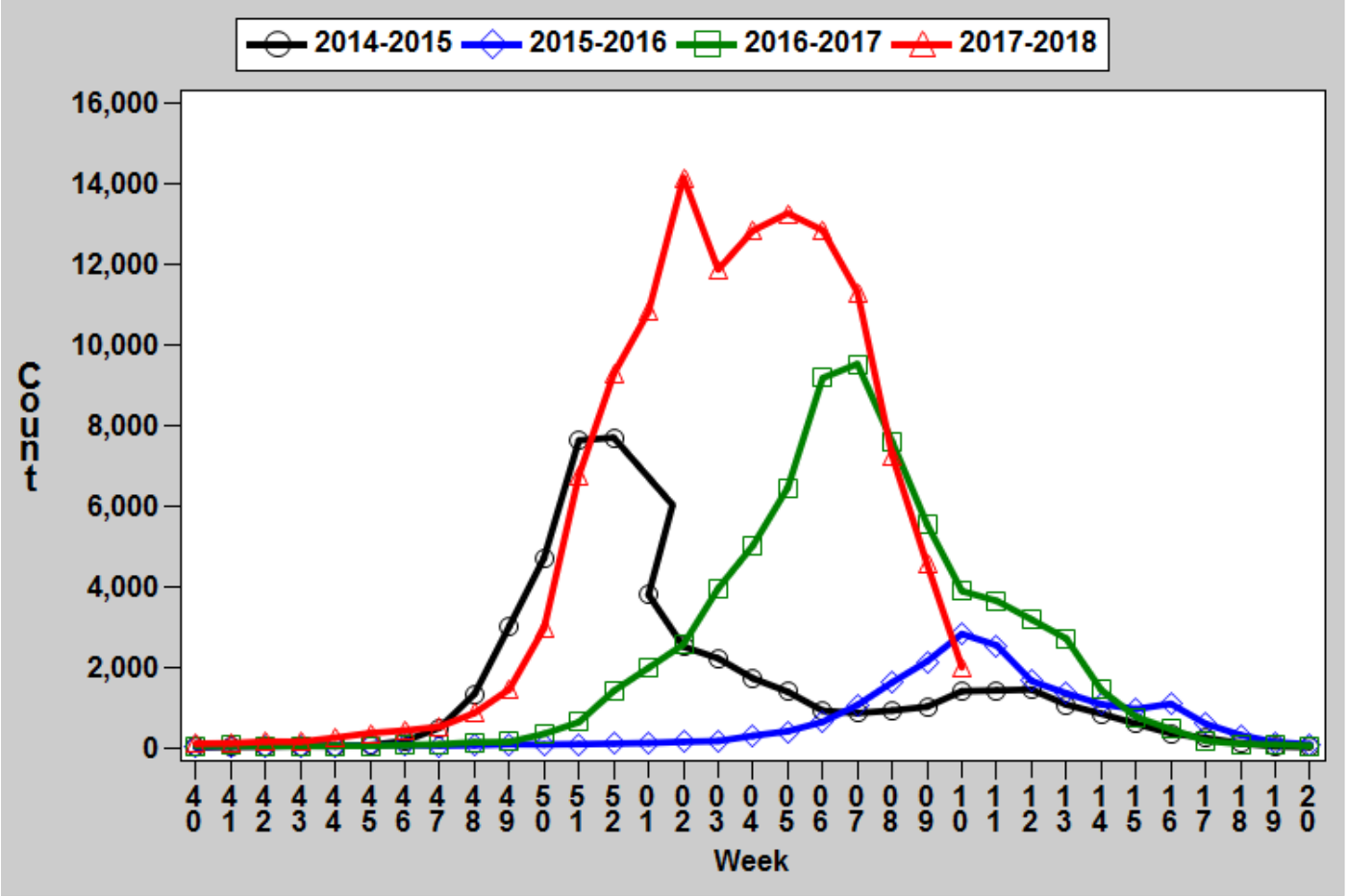
†Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
‡Incidence Rate per 100,000 population

Figure 3. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Region, Missouri, CDC Week 10 (March 4 – 10, 2018)[*‡]

Region	Week 10 Cases	Week 10 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
Central	387	57.16	16,655	2,460.13
Eastern	560	24.71	39,030	1,722.30
Northwest	500	31.30	34,590	2,165.23
Southeast	229	48.55	14,081	2,985.17
Southwest	328	30.62	20,103	1,876.51
Total	2,004	32.94	124,459	2,045.79

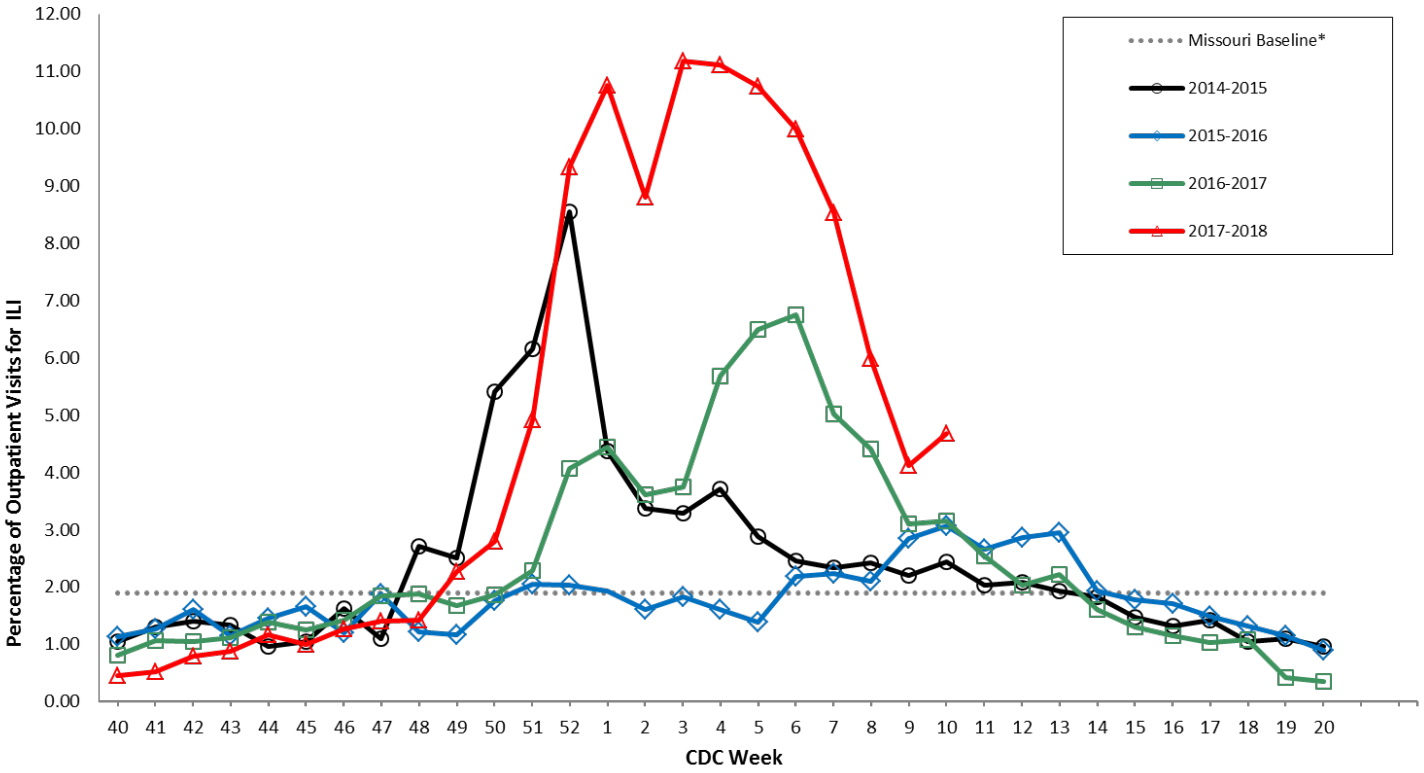
[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 4. Number of Laboratory-positive[†] Influenza Cases by CDC Week, Missouri, 2014-2018[*]



[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. Week 53, 2014-2015 flu season has 3,082 reported confirmed cases. Data Source: Missouri Health Information Surveillance System (WebSurv).

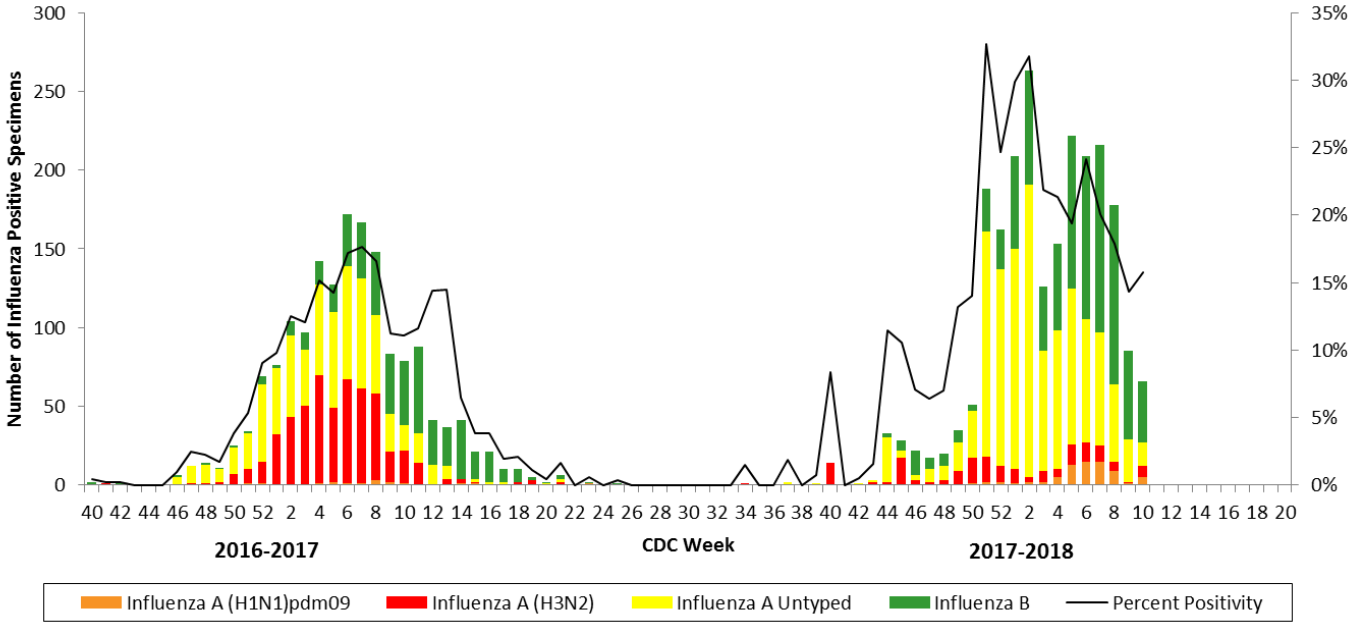
Figure 5. Percentage of Outpatient Visits for Influenza-like Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2014-2018*†



*The ILINet Region 7 (MO, IA, KS, NE) baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons, plus two standard deviations. A non-influenza week is defined as periods of two or more consecutive weeks in which each week accounted for less than 2% of the season's total number of specimens that tested positive for influenza.
Data Source: U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Centers for Disease Control and Prevention (CDC).

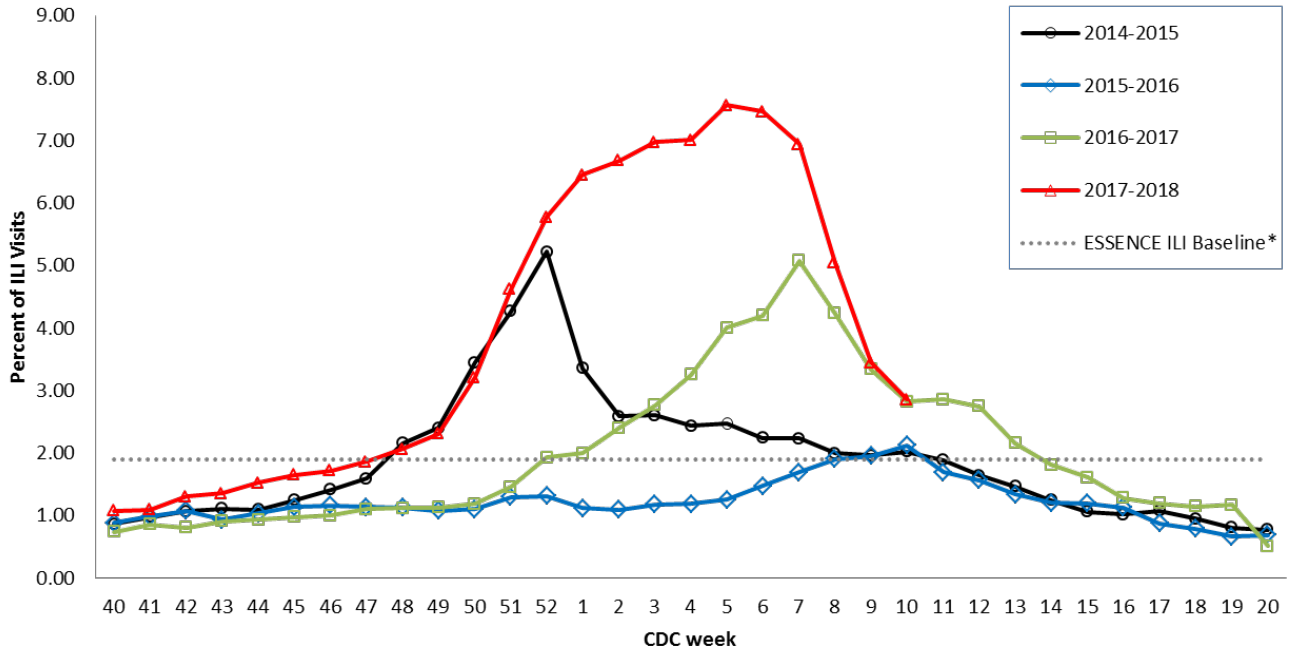
†2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of outpatient visits for ILI during Week 53 was 7.63.

Figure 6. Season-to-Date PCR (+) Tests for Influenza in Missouri



Data Source: National Respiratory and Enteric Virus Surveillance System (NREVSS), Centers for Disease Control and Prevention (CDC).
2016-2017 season-to-date through the week ending May 19, 2018 (Week 20).

Figure 7. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, 2014-2018 Influenza Seasons*†‡



*The ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2014-16) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
†The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of visits for ILI in ESSENCE participating hospitals during Week 53 was 4.38%.
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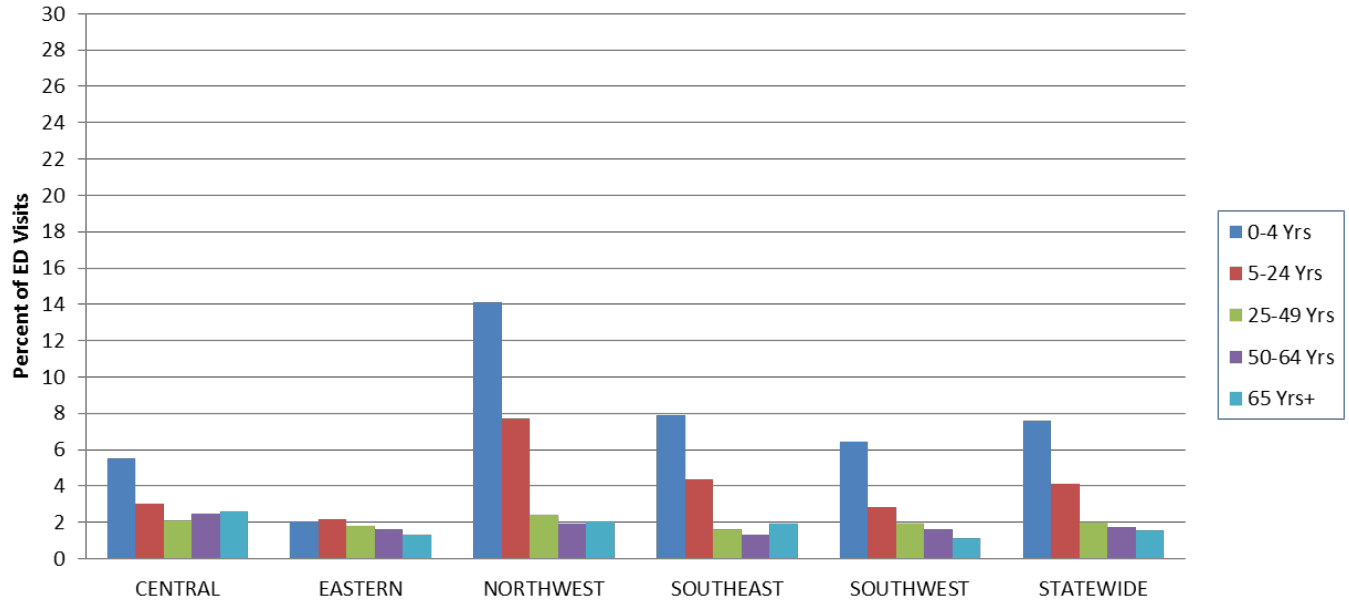
Figure 8. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Age Group, Region and Statewide, Week 10, 2018*



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
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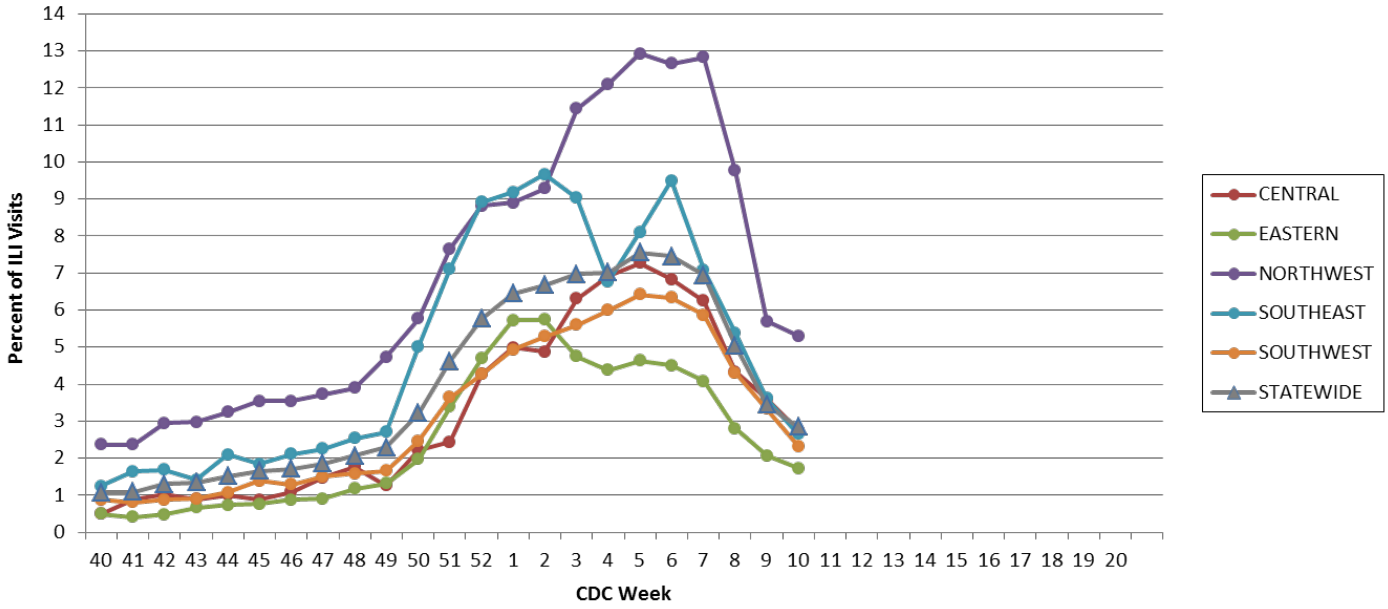
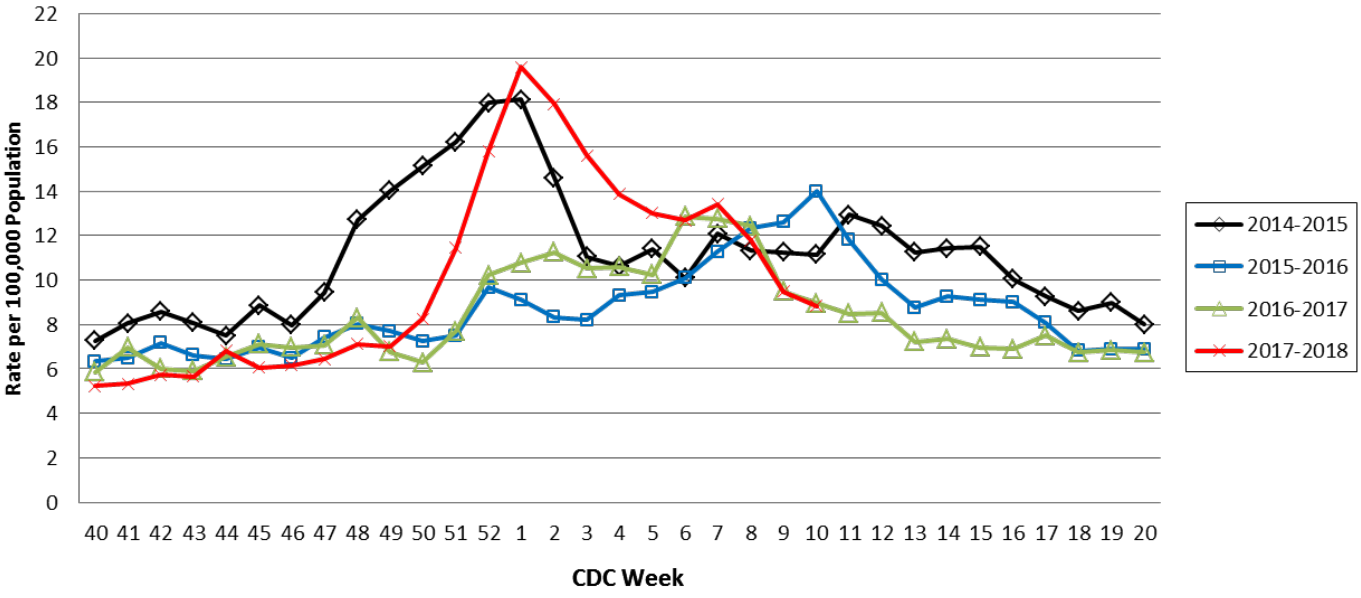
Figure 9. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Region and Statewide, 2017-2018 Influenza Season*



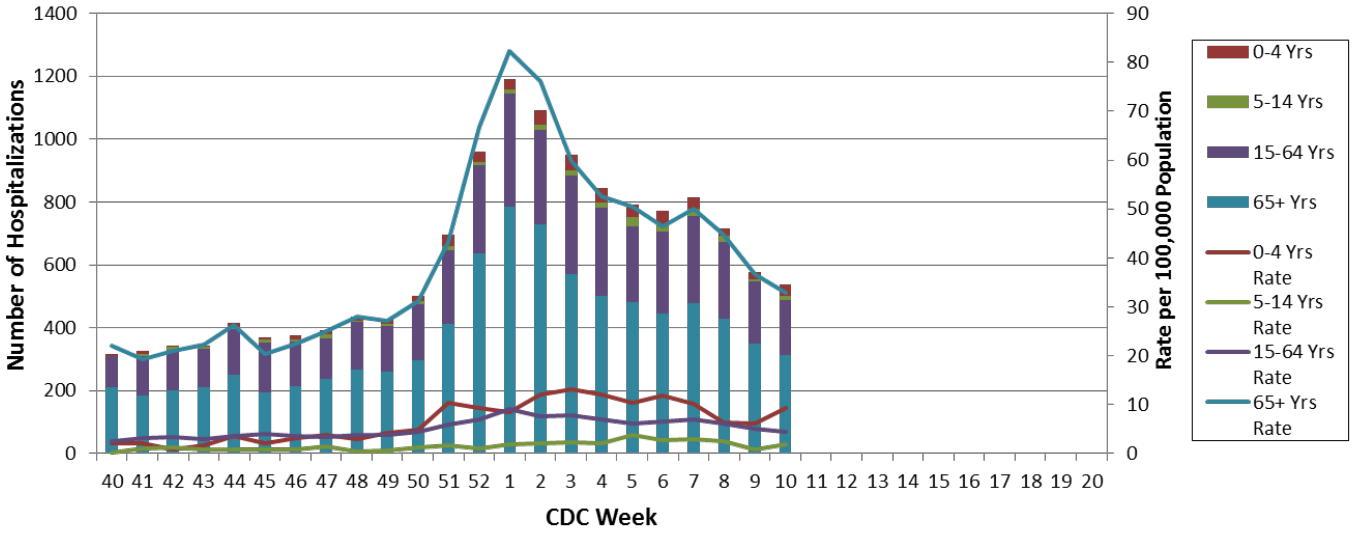
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 10. Weekly Rate of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Missouri Hospitals, 2014-2018 Influenza Seasons



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.
Population data from DHSS Population MICA 2015 (http://health.mo.gov/data/mica/mica/population.php).

Figure 11. Number of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Participating Missouri Hospitals, by Age Group, Week 10, 2017-2018 Influenza Season



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Additional Influenza Data Sources:

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World Health Organization: International Influenza Surveillance:
http://www.who.int/influenza/surveillance_monitoring/en/

Missouri Weekly Influenza Surveillance Report 2017-2018 Influenza Season[1]

Week 11: March 11 – 17, 2018

All data are preliminary and may change as more reports are received.

Summary:

- The estimated influenza activity in Missouri is Regional[2].

- During Week 11, a total of 1,780 laboratory-positive[3] influenza cases (662 influenza A, 1,078 influenza B, and 40 untyped) were reported. A season-to-date total of 127,940 laboratory-positive influenza cases (83,205 influenza A, 42,913 influenza B, and 1,822 untyped) have been reported in Missouri as of Week 11. The influenza type for reported season-to date cases includes 65% influenza A, 34% influenza B, and 1% untyped. Twelve laboratory-positive cases of influenza (three influenza A (H3), two influenza A (H1N1), and seven influenza B (Yamagata)) were reported by the Missouri State Public Health Laboratory (MSPHL) during Week 11.

- Influenza-like illness (ILI) activity was above baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 2.53% (Figure 5) and 2.62% (Figure 7) through ILINet and ESSENCE respectively.[4] The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution. The percentage of respiratory specimens testing positive for influenza in Missouri laboratories reporting to the National Respiratory and Enteric Virus Surveillance System (NREVSS) decreased during Week 11 (Figure 6).

- Two hundred and thirty-three influenza-associated deaths have been reported in Missouri as of Week 11.[5] During Week 10, 78 deaths involving Pneumonia and Influenza (P&I) were reported to the Bureau of Vital Records, resulting in a season-to-date total of 1,557 P&I associated deaths in Missouri.[6]

- Sixty-seven outbreaks of influenza or ILI have been reported and 15 influenza or ILI-associated school closures have been reported in Missouri as of Week 11.

- Influenza activity decreased in the U.S. during Week 10. National influenza surveillance information is prepared by CDC and is included in the weekly FluView report, which is available online at http://www.cdc.gov/flu/weekly/fluactivitysurv.htm.

---

[1]The 2017-2018 influenza season begins CDC Week 40 (week ending October 7, 2017) and ends CDC Week 39 (week ending September 29, 2018).

[2]Regional is defined as: Outbreaks of influenza or increases in ILI and recent laboratory confirmed influenza in at least two but less than half the regions of the state with recent laboratory evidence of influenza in those regions.

[3]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

[4]Influenza-like illness (ILI) is defined by ILINet as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza. ILI is defined by ESSENCE as Emergency Department chief complaints for Influenza or (FeverPlus and (Cough or SoreThroat) and not NonILIFevers).

[5]All influenza-associated deaths became reportable in Missouri in 2016.

[6]The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

Surveillance Data:

Interactive Maps

The jurisdiction-specific influenza data are provided though interactive maps available at https://arcg.is/1m9HKn. *Click on the jurisdiction to view the influenza data specific to that jurisdiction.*

- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, CDC Week 11**
- **Reported Week-specific Rate per 100,000 Population, CDC Week 11**
- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, Season-to-Date**
- **Reported Rate per 100,000 Population, Season-to-Date**

Data Figures

Figure 1. Number of Laboratory-positive[†] Influenza Cases by Influenza Type, Missouri, CDC Week 11 (March 11 – 17, 2018)[*]

Influenza Type	Week 9	Week 10	Week 11	2017-2018* Season-to-Date
Influenza A	1,989	1,175	662	83,205
Influenza B	2,873	1,753	1,078	42,913
Influenza Unknown Or Untyped	99	43	40	1,822
Total	4,961	2,971	1,780	127,940

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 2. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 11 (March 11 – 17, 2018)[*‡]

Age Group	Week 11 Cases	Week 11 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
00-04	250	66.78	19,764	5,279.41
05-24	601	37.46	45,609	2,842.54
25-49	350	18.29	25,508	1,333.05
50-64	278	22.49	18,226	1,474.15
65+	301	31.52	18,833	1,972.20
Total	1,780	29.26	127,940	2,103.01

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 3. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Region, Missouri, CDC Week 11 (March 11 – 17, 2018)[*‡]

Region	Week 11 Cases	Week 11 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
Central	276	40.77	17,232	2,545.35
Eastern	425	18.75	39,698	1,751.78
Northwest	740	46.32	36,327	2,273.96
Southeast	228	48.34	14,345	3,041.13
Southwest	111	10.36	20,338	1,898.44
Total	1,780	29.26	127,940	2,103.01

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
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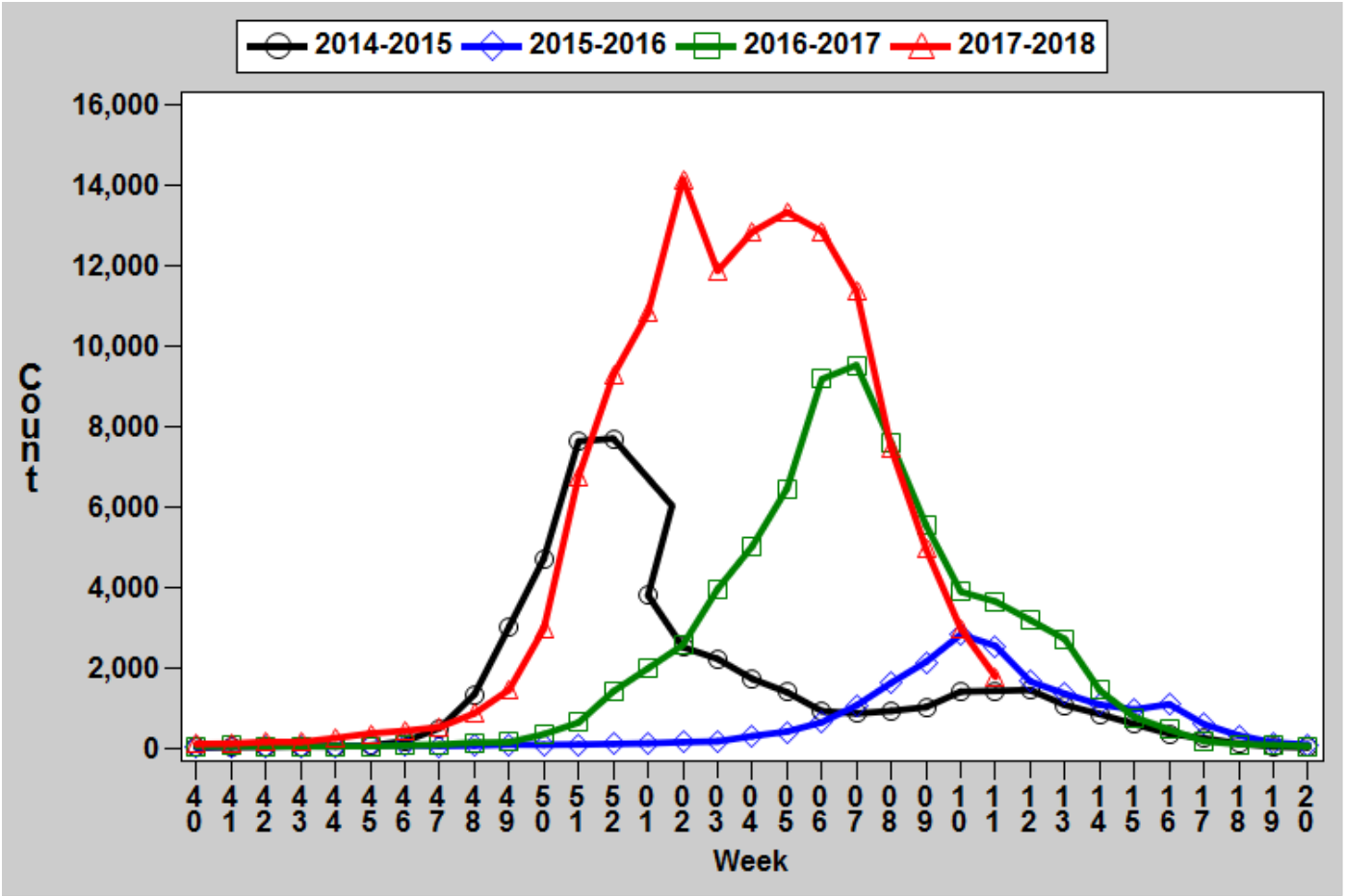
[‡]Incidence Rate per 100,000 population

Figure 4. Number of Laboratory-positive[†] Influenza Cases by CDC Week, Missouri, 2014-2018[*]



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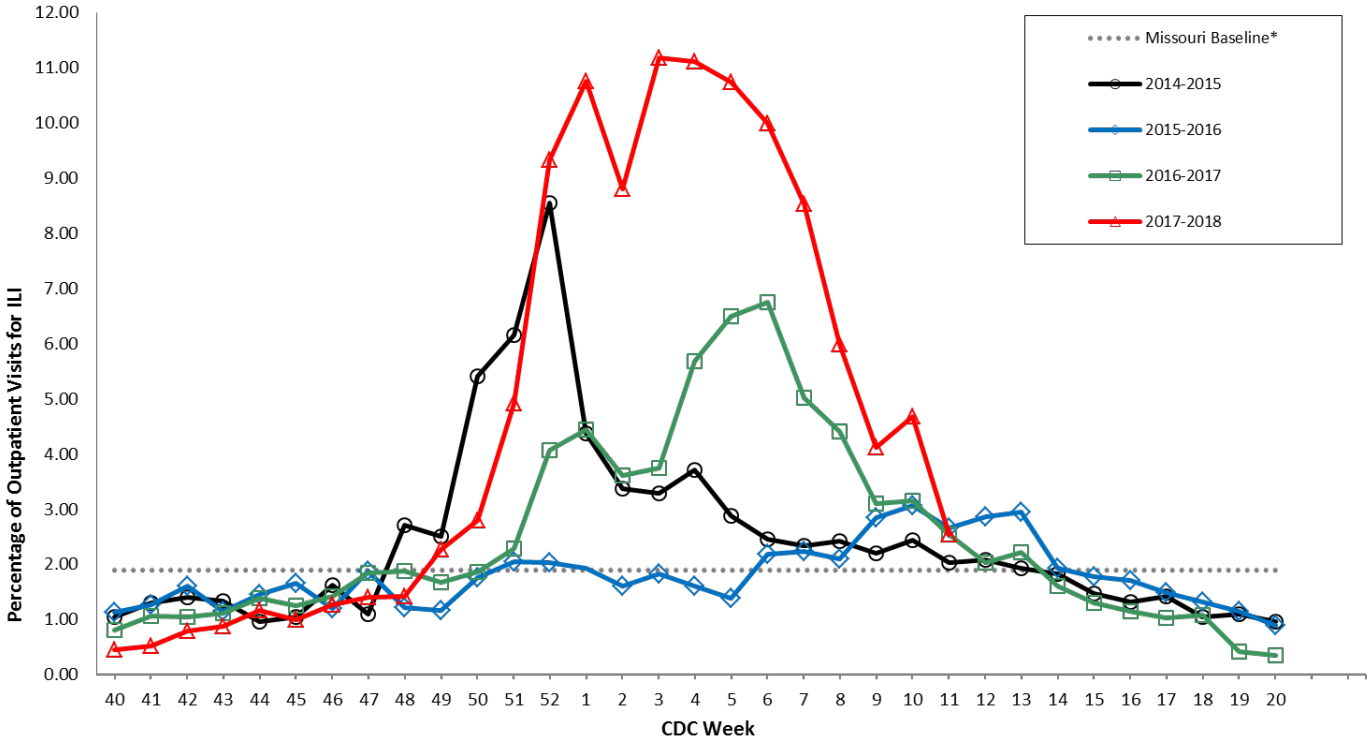
[*]2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. Week 53, 2014-2015 flu season has 3,082 reported confirmed cases. Data Source: Missouri Health Information Surveillance System (WebSurv).

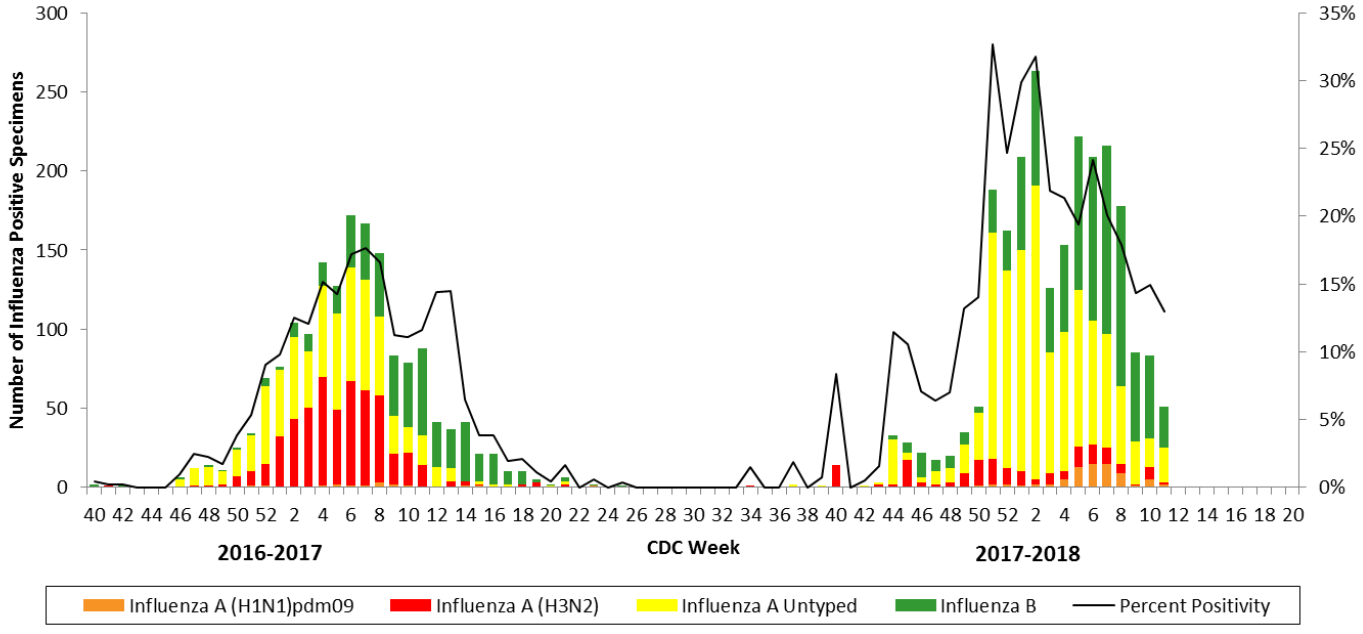
Figure 5. Percentage of Outpatient Visits for Influenza-like Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2014-2018*†



*The ILINet Region 7 (MO, IA, KS, NE) baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons, plus two standard deviations. A non-influenza week is defined as periods of two or more consecutive weeks in which each week accounted for less than 2% of the season's total number of specimens that tested positive for influenza.
Data Source: U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Centers for Disease Control and Prevention (CDC).

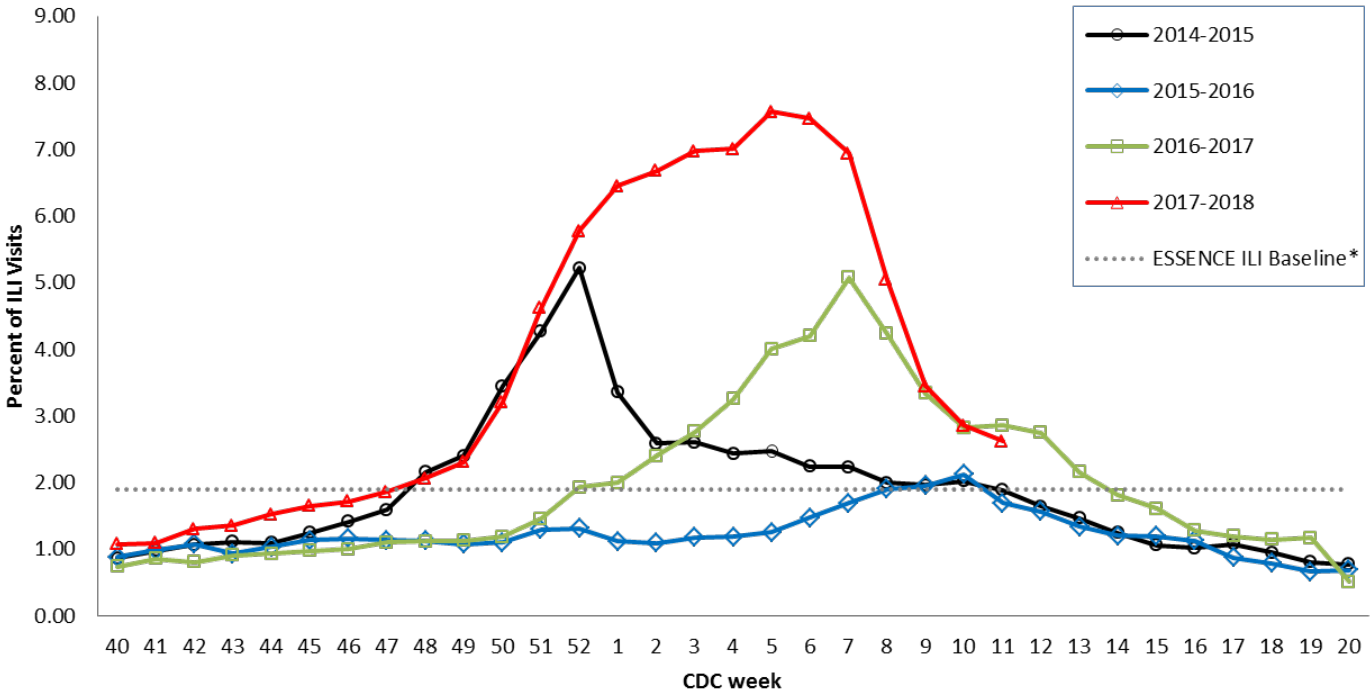
†2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of outpatient visits for ILI during Week 53 was 7.63.

Figure 6. Season-to-Date PCR (+) Tests for Influenza in Missouri



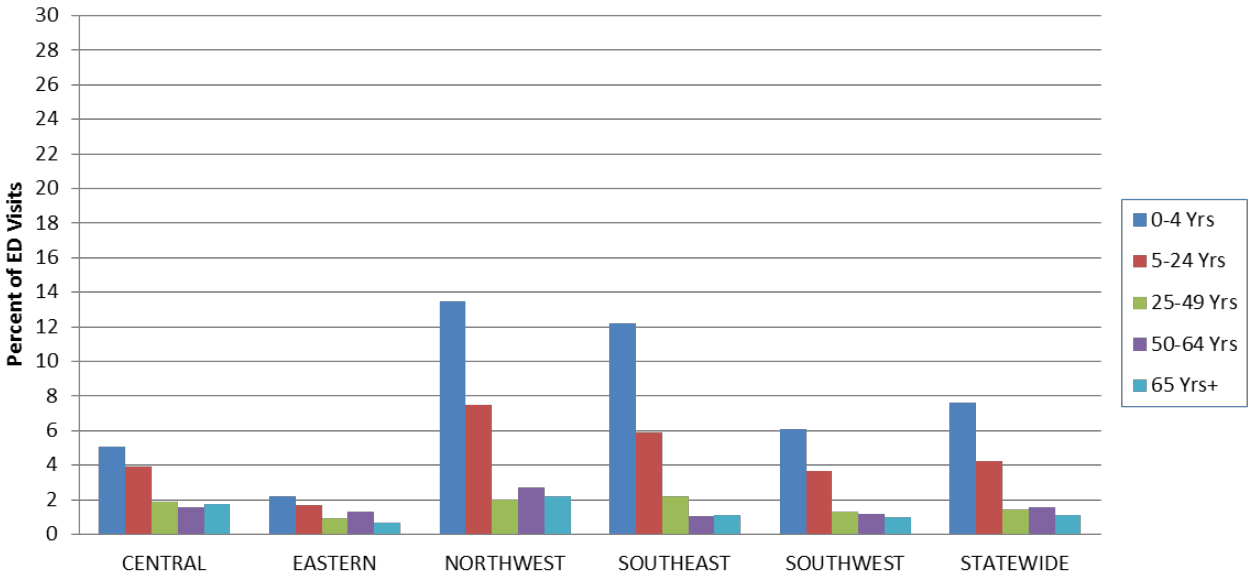
Data Source: National Respiratory and Enteric Virus Surveillance System (NREVSS), Centers for Disease Control and Prevention (CDC).
2016-2017 season-to-date through the week ending May 19, 2018 (Week 20).

Figure 7. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, 2014-2018 Influenza Seasons*†‡



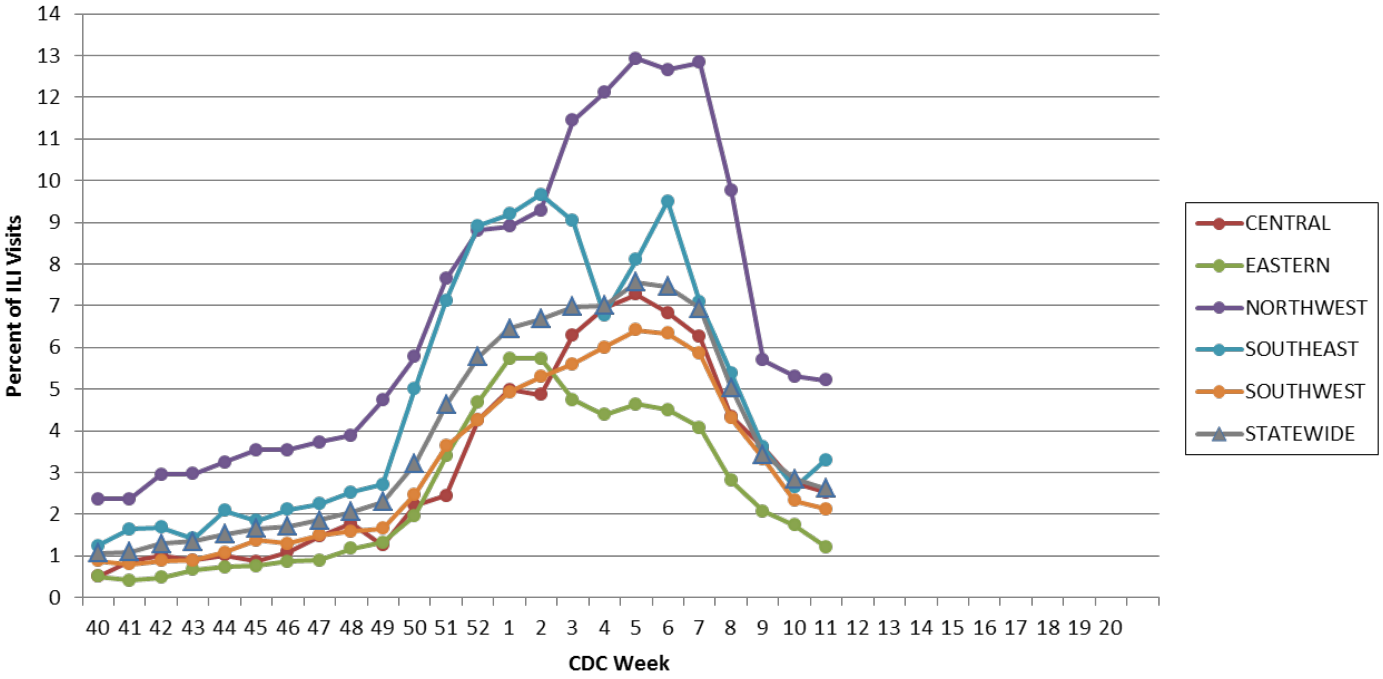
*The ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2014-16) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
†The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of visits for ILI in ESSENCE participating hospitals during Week 53 was 4.38%.
‡The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 8. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Age Group, Region and Statewide, Week 11, 2018*



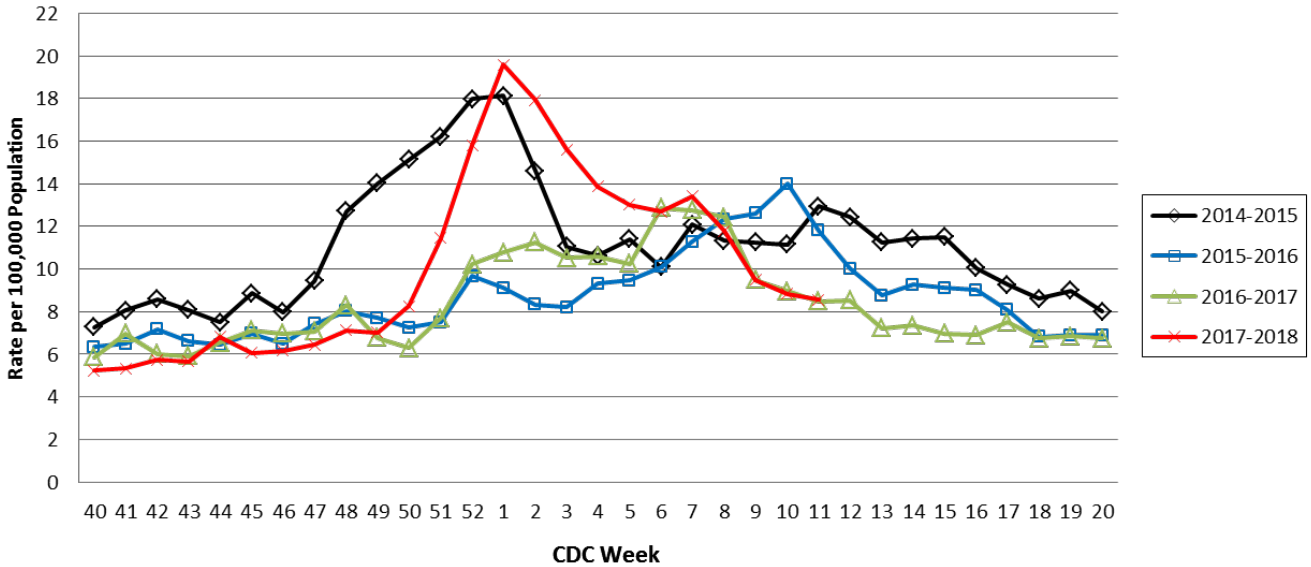
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 9. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Region and Statewide, 2017-2018 Influenza Season*



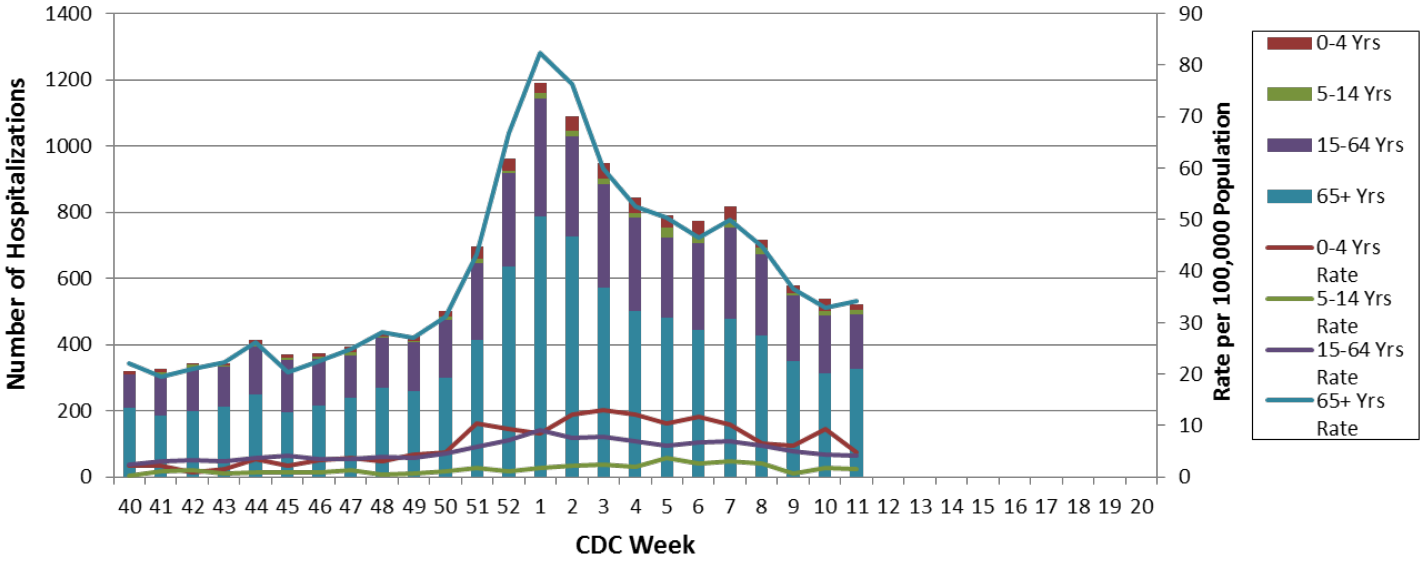
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 10. Weekly Rate of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Missouri Hospitals, 2014-2018 Influenza Seasons



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.
Population data from DHSS Population MICA 2015 (http://health.mo.gov/data/mica/mica/population.php).

Figure 11. Number of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Participating Missouri Hospitals, by Age Group, Week 11, 2017-2018 Influenza Season



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.

Additional Influenza Data Sources:

Centers for Disease Control and Prevention: National Influenza Surveillance (FluView):
http://www.cdc.gov/flu/weekly/fluactivitysurv.htm

The National Respiratory and Enteric Virus Surveillance System (NREVSS):
https://www.cdc.gov/surveillance/nrevss/

World Health Organization: International Influenza Surveillance:
http://www.who.int/influenza/surveillance_monitoring/en/

Missouri Weekly Influenza Surveillance Report 2017-2018 Influenza Season[1]

Week 12: March 18 – 24, 2018

All data are preliminary and may change as more reports are received.

Summary:

- The estimated influenza activity in Missouri is Regional[2].

- During Week 12, a total of 1,198 laboratory-positive[3] influenza cases (412 influenza A, 767 influenza B, and 19 untyped) were reported. A season-to-date total of 129,854 laboratory-positive influenza cases (83,962 influenza A, 44,050 influenza B, and 1,842 untyped) have been reported in Missouri as of Week 12. The influenza type for reported season-to date cases includes 65% influenza A, 34% influenza B, and 1% untyped. Eleven laboratory-positive cases of influenza (three influenza A (H3), two influenza A (H1N1), and six influenza B (Yamagata)) were reported by the Missouri State Public Health Laboratory (MSPHL) during Week 12.

- Influenza-like illness (ILI) activity was above baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 3.19% (Figure 5) and 1.90% (Figure 7) through ILINet and ESSENCE respectively.[4] The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution. The percentage of respiratory specimens testing positive for influenza in Missouri laboratories reporting to the National Respiratory and Enteric Virus Surveillance System (NREVSS) decreased during Week 12 (Figure 6).

- Two hundred and forty-two influenza-associated deaths have been reported in Missouri as of Week 12.[5] During Week 11, 61 deaths involving Pneumonia and Influenza (P&I) were reported to the Bureau of Vital Records, resulting in a season-to-date total of 1,618 P&I associated deaths in Missouri.[6]

- Sixty-seven outbreaks of influenza or ILI have been reported and 15 influenza or ILI-associated school closures have been reported in Missouri as of Week 12.

- Influenza activity decreased in the U.S. during Week 11. National influenza surveillance information is prepared by CDC and is included in the weekly FluView report, which is available online at http://www.cdc.gov/flu/weekly/fluactivitysurv.htm.

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[1]The 2017-2018 influenza season begins CDC Week 40 (week ending October 7, 2017) and ends CDC Week 39 (week ending September 29, 2018).

[2]Regional is defined as: Outbreaks of influenza or increases in ILI and recent laboratory confirmed influenza in at least two but less than half the regions of the state with recent laboratory evidence of influenza in those regions.

[3]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

[4]Influenza-like illness (ILI) is defined by ILINet as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza. ILI is defined by ESSENCE as Emergency Department chief complaints for Influenza or (FeverPlus and (Cough or SoreThroat) and not NonILIFevers).

[5]All influenza-associated deaths became reportable in Missouri in 2016.

[6]The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

Surveillance Data:

Interactive Maps

The jurisdiction-specific influenza data are provided though interactive maps available at http://arcg.is/1qOnnu. *Click on the jurisdiction to view the influenza data specific to that jurisdiction.*

- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, CDC Week 12**
- **Reported Week-specific Rate per 100,000 Population, CDC Week 12**
- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, Season-to-Date**
- **Reported Rate per 100,000 Population, Season-to-Date**

Data Figures

Figure 1. Number of Laboratory-positive[†] Influenza Cases by Influenza Type, Missouri, CDC Week 12 (March 18 – 24, 2018)[*]

Influenza Type	Week 10	Week 11	Week 12	2017-2018* Season-to-Date
Influenza A	1,205	830	412	83,962
Influenza B	1,814	1,286	767	44,050
Influenza Unknown Or Untyped	44	39	19	1,842
Total	3,063	2,155	1,198	129,854

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 2. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 12 (March 18 – 24, 2018)[*‡]

Age Group	Week 12 Cases	Week 12 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
00-04	177	47.28	20,050	5,355.81
05-24	320	19.94	46,197	2,879.19
25-49	304	15.89	25,941	1,355.68
50-64	193	15.61	18,531	1,498.82
65+	204	21.36	19,135	2,003.83
Total	1,198	19.69	129,854	2,134.47

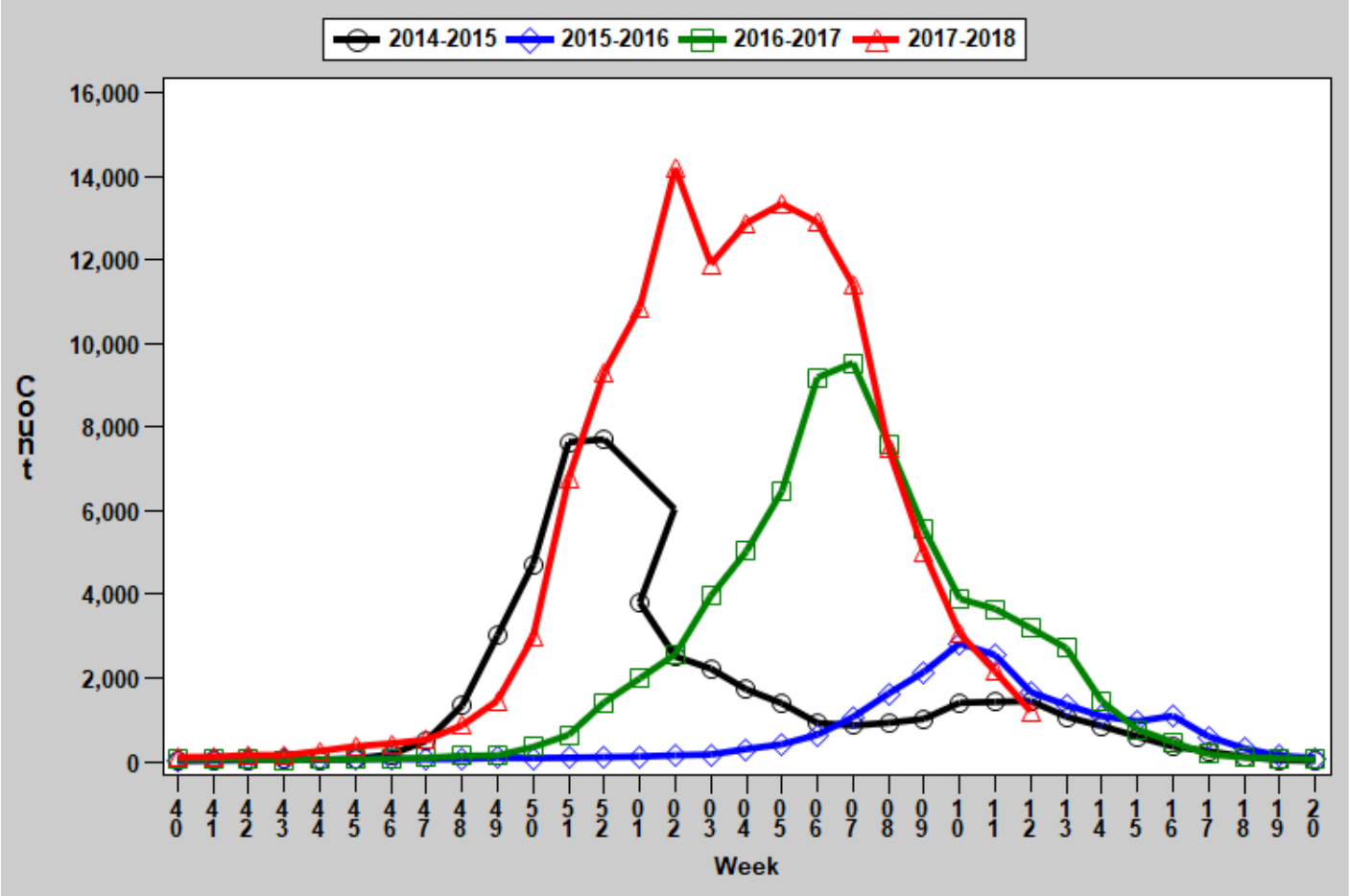
[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 3. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Region, Missouri, CDC Week 12 (March 18 – 24, 2018)[*‡]

Region	Week 12 Cases	Week 12 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
Central	170	25.11	17,548	2,592.03
Eastern	361	15.93	40,123	1,770.53
Northwest	422	26.42	36,897	2,309.64
Southeast	114	24.17	14,486	3,071.03
Southwest	131	12.23	20,800	1,941.57
Total	1,198	19.69	129,854	2,134.47

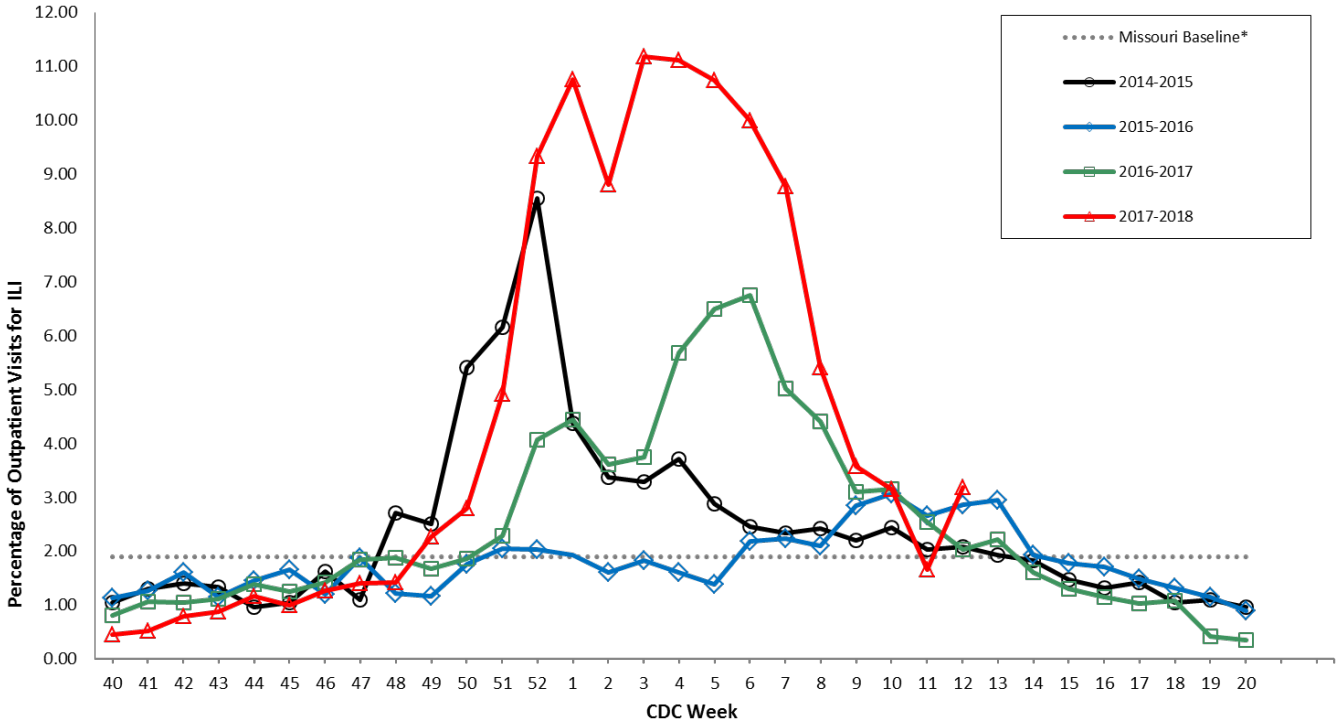
[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 4. Number of Laboratory-positive[†] Influenza Cases by CDC Week, Missouri, 2014-2018[*]



[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. Week 53, 2014-2015 flu season has 3,082 reported confirmed cases. Data Source: Missouri Health Information Surveillance System (WebSurv).

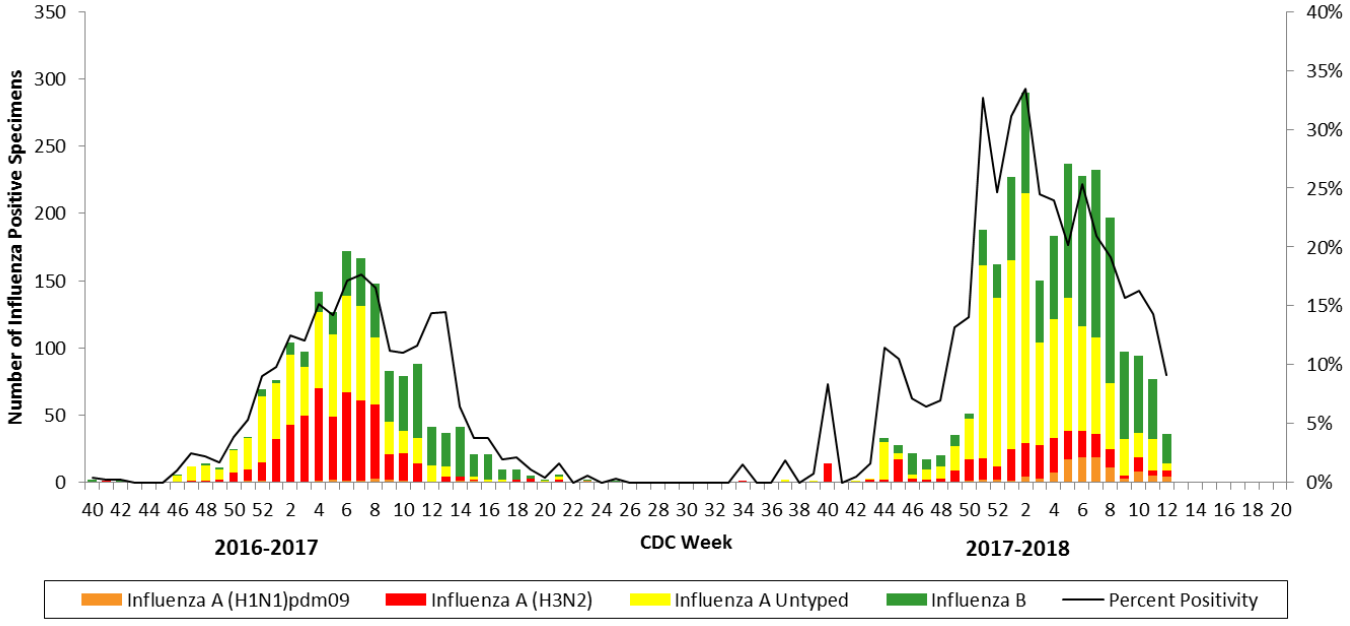
Figure 5. Percentage of Outpatient Visits for Influenza-like Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2014-2018*†



*The ILINet Region 7 (MO, IA, KS, NE) baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons, plus two standard deviations. A non-influenza week is defined as periods of two or more consecutive weeks in which each week accounted for less than 2% of the season's total number of specimens that tested positive for influenza.
Data Source: U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Centers for Disease Control and Prevention (CDC).

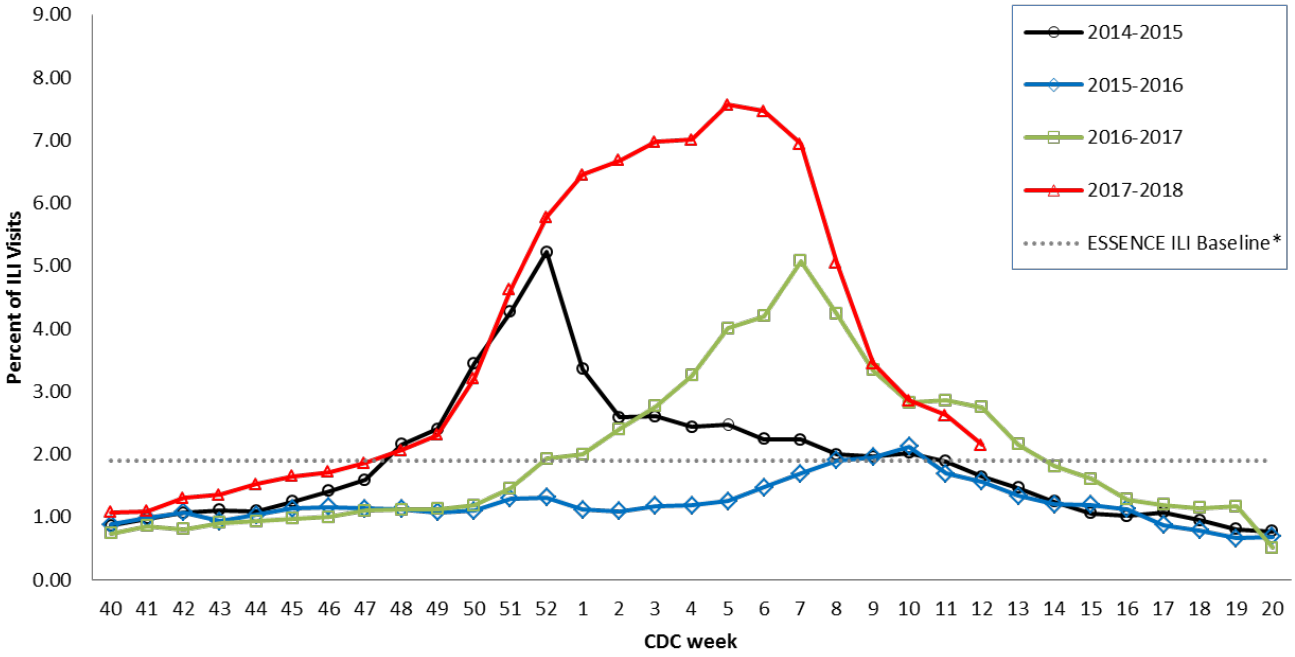
†2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of outpatient visits for ILI during Week 53 was 7.63.

Figure 6. Season-to-Date PCR (+) Tests for Influenza in Missouri



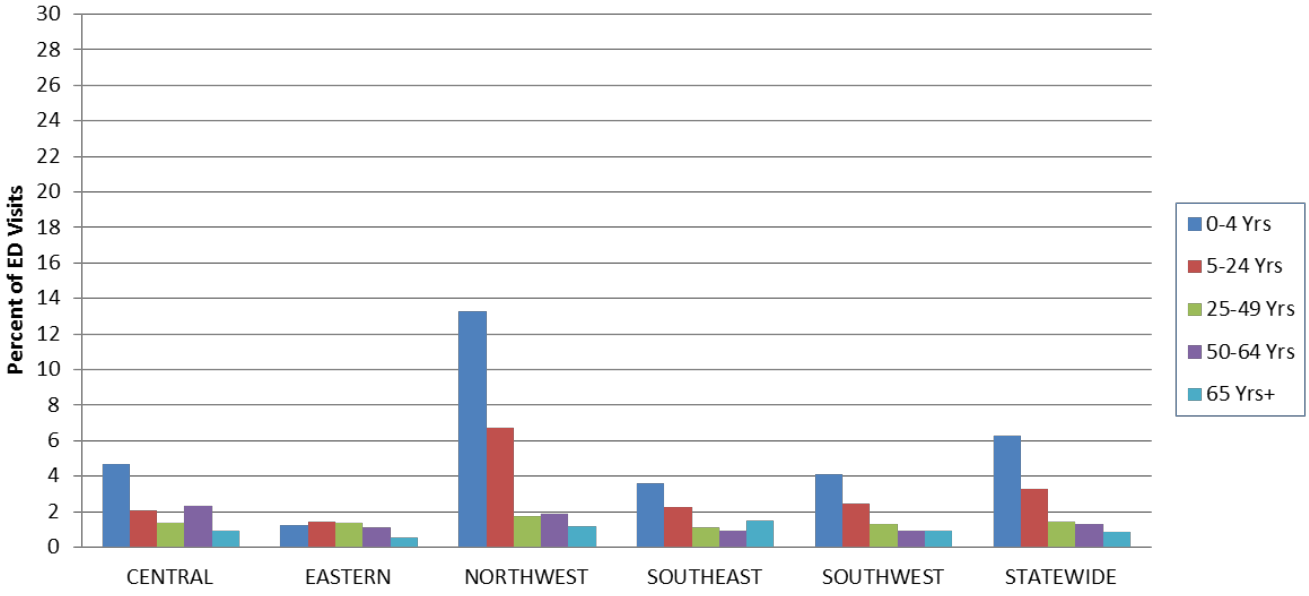
Data Source: National Respiratory and Enteric Virus Surveillance System (NREVSS), Centers for Disease Control and Prevention (CDC).
2016-2017 season-to-date through the week ending May 19, 2018 (Week 20).

Figure 7. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, 2014-2018 Influenza Seasons*†‡



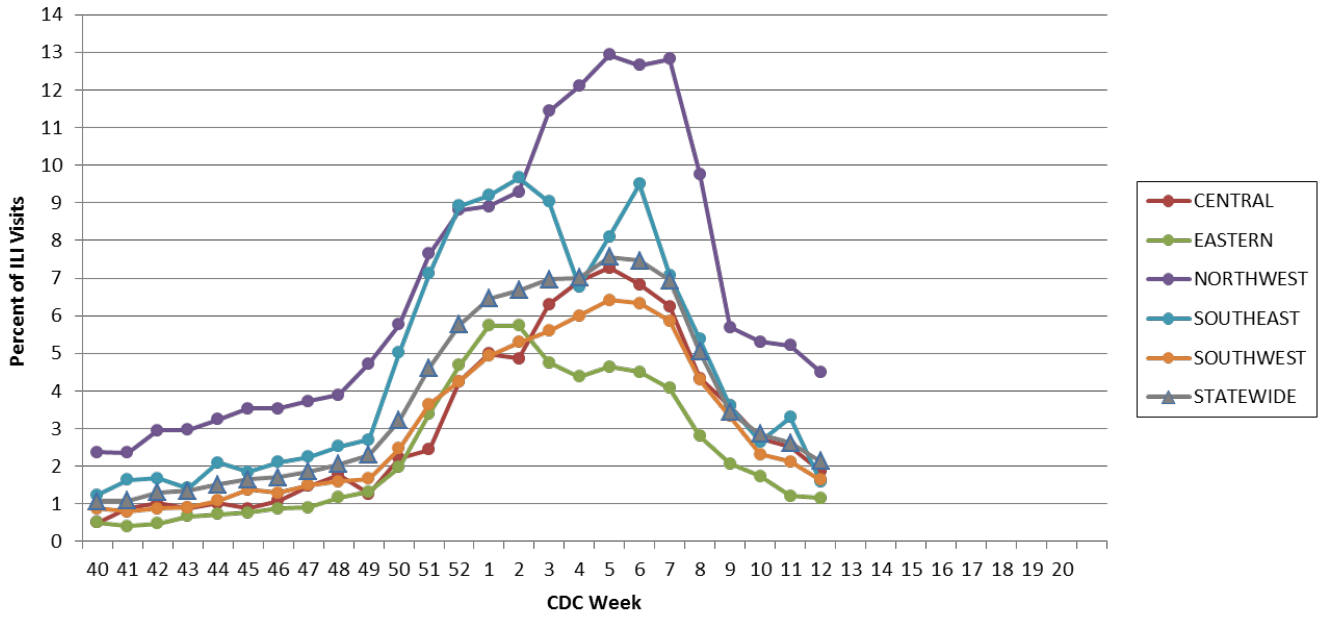
*The ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2014-16) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
†The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of visits for ILI in ESSENCE participating hospitals during Week 53 was 4.38%.
‡The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 8. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Age Group, Region and Statewide, Week 12, 2018*



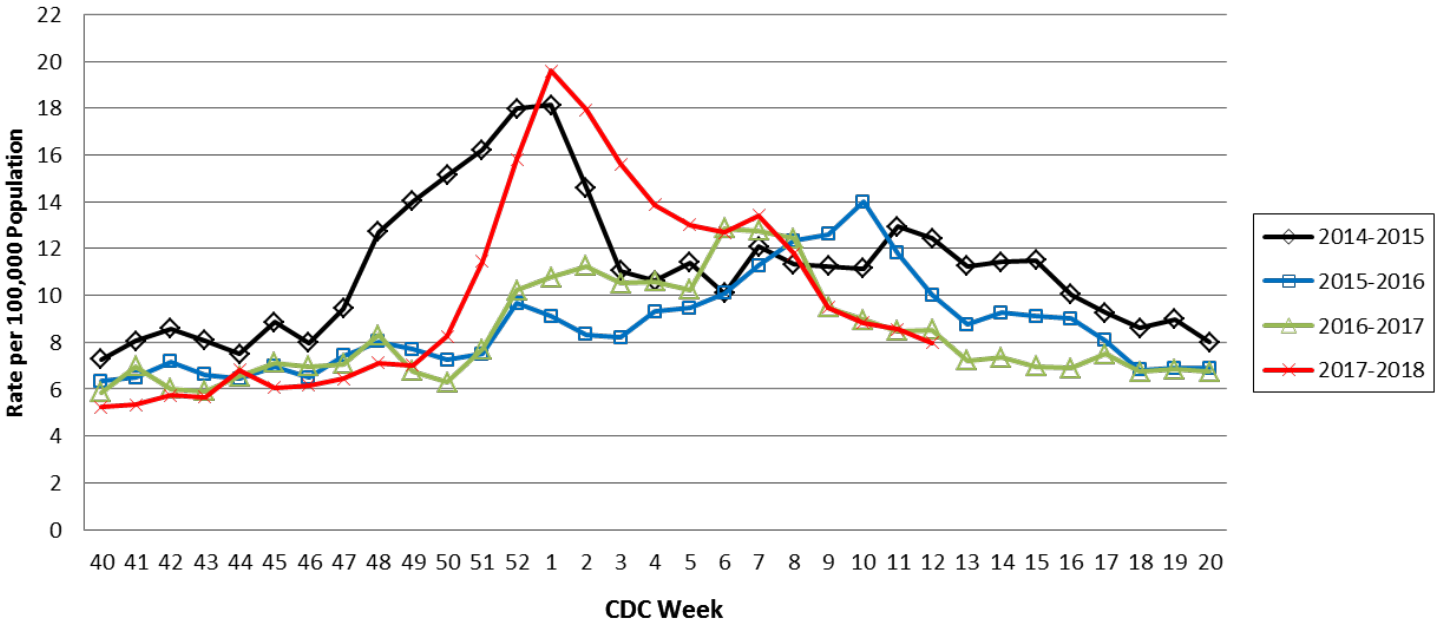
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 9. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Region and Statewide, 2017-2018 Influenza Season*



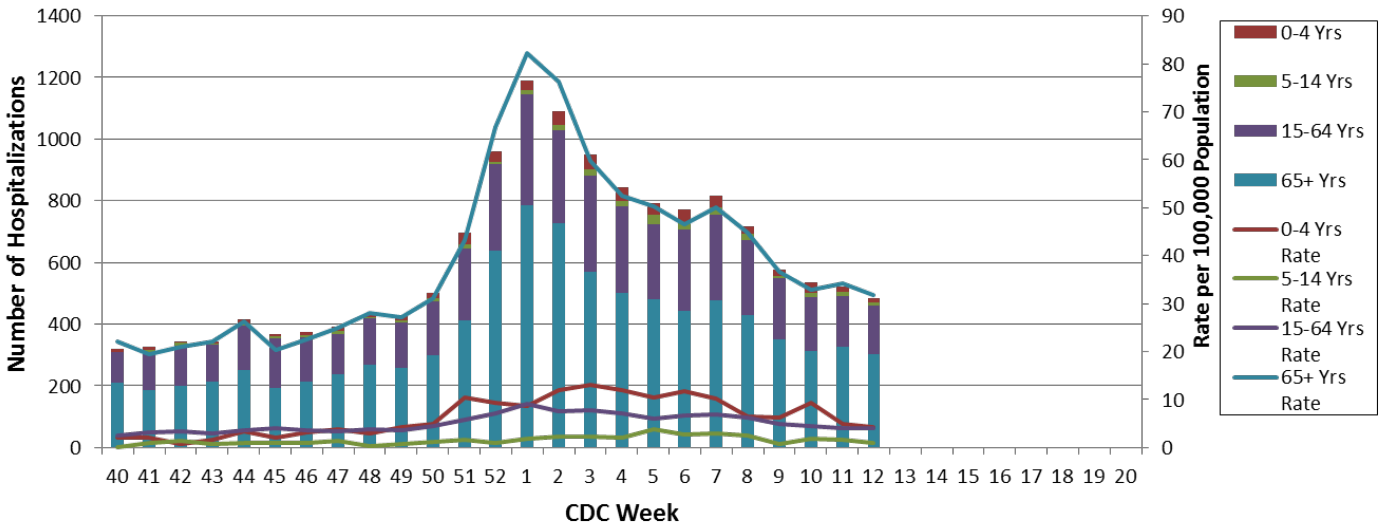
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 10. Weekly Rate of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Missouri Hospitals, 2014-2018 Influenza Seasons



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.
Population data from DHSS Population MICA 2015 (http://health.mo.gov/data/mica/mica/population.php).

Figure 11. Number of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Participating Missouri Hospitals, by Age Group, Week 12, 2017-2018 Influenza Season



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.

Additional Influenza Data Sources:

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World Health Organization: International Influenza Surveillance:
http://www.who.int/influenza/surveillance_monitoring/en/

Missouri Weekly Influenza Surveillance Report
2017-2018 Influenza Season[1]

Week 13: March 25 – 31, 2018

All data are preliminary and may change as more reports are received.

Summary:

- The estimated influenza activity in Missouri is Regional[2].

- During Week 13, a total of 752 laboratory-positive[3] influenza cases (254 influenza A, 486 influenza B, and 12 untyped) were reported. A season-to-date total of 131,417 laboratory-positive influenza cases (84,505 influenza A, 45,032 influenza B, and 1,880 untyped) have been reported in Missouri as of Week 13. The influenza type for reported season-to date cases includes 65% influenza A, 34% influenza B, and 1% untyped. Thirteen laboratory-positive cases of influenza (four influenza A (H3), six influenza A (H1N1), one influenza B (Yamagata), and two influenza B (Victoria)) were reported by the Missouri State Public Health Laboratory (MSPHL) during Week 13.

- Influenza-like illness (ILI) activity was below baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 1.34% (Figure 5) and 1.76% (Figure 7) through ILINet and ESSENCE respectively.[4] The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution. The percentage of respiratory specimens testing positive for influenza in Missouri laboratories reporting to the National Respiratory and Enteric Virus Surveillance System (NREVSS) decreased during Week 13 (Figure 6).

- Two hundred and sixty influenza-associated deaths have been reported in Missouri as of Week 13.[5] During Week 12, 59 deaths involving Pneumonia and Influenza (P&I) were reported to the Bureau of Vital Records, resulting in a season-to-date total of 1,677 P&I associated deaths in Missouri.[6]

- Sixty-seven outbreaks of influenza or ILI have been reported and 15 influenza or ILI-associated school closures have been reported in Missouri as of Week 13.

- Influenza activity decreased in the U.S. during Week 12. National influenza surveillance information is prepared by CDC and is included in the weekly FluView report, which is available online at http://www.cdc.gov/flu/weekly/fluactivitysurv.htm.

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[1]The 2017-2018 influenza season begins CDC Week 40 (week ending October 7, 2017) and ends CDC Week 39 (week ending September 29, 2018).

[2]Regional is defined as: Outbreaks of influenza or increases in ILI and recent laboratory confirmed influenza in at least two but less than half the regions of the state with recent laboratory evidence of influenza in those regions.

[3]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

[4]Influenza-like illness (ILI) is defined by ILINet as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza. ILI is defined by ESSENCE as Emergency Department chief complaints for Influenza or (FeverPlus and (Cough or SoreThroat) and not NonILIFevers).

[5]All influenza-associated deaths became reportable in Missouri in 2016.

[6]The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

Surveillance Data:

Interactive Maps

The jurisdiction-specific influenza data are provided though interactive maps available at http://arcg.is/1buSHa. *Click on the jurisdiction to view the influenza data specific to that jurisdiction.*

- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, CDC Week 13**
- **Reported Week-specific Rate per 100,000 Population, CDC Week 13**
- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, Season-to-Date**
- **Reported Rate per 100,000 Population, Season-to-Date**

Data Figures

Figure 1. Number of Laboratory-positive[†] Influenza Cases by Influenza Type, Missouri, CDC Week 13 (March 25 – 31, 2018)[*]

Influenza Type	Week 11	Week 12	Week 13	2017-2018* Season-to-Date
Influenza A	888	512	254	84,505
Influenza B	1,392	1,041	486	45,032
Influenza Unknown Or Untyped	40	20	12	1,880
Total	2,320	1,573	752	131,417

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 2. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 13 (March 25 – 31, 2018)[*‡]

Age Group	Week 13 Cases	Week 13 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
00-04	110	29.38	20,229	5,403.62
05-24	202	12.59	46,637	2,906.61
25-49	163	8.52	26,283	1,373.56
50-64	147	11.89	18,837	1,523.57
65+	130	13.61	19,431	2,034.83
Total	752	12.36	131,417	2,160.16

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 3. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Region, Missouri, CDC Week 13 (March 25 – 31, 2018)[*‡]

Region	Week 13 Cases	Week 13 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
Central	145	21.42	17,860	2,638.12
Eastern	209	9.22	40,417	1,783.51
Northwest	208	13.02	37,546	2,350.27
Southeast	102	21.62	14,690	3,114.27
Southwest	88	8.21	20,904	1,951.27
Total	752	12.36	131,417	2,160.16

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
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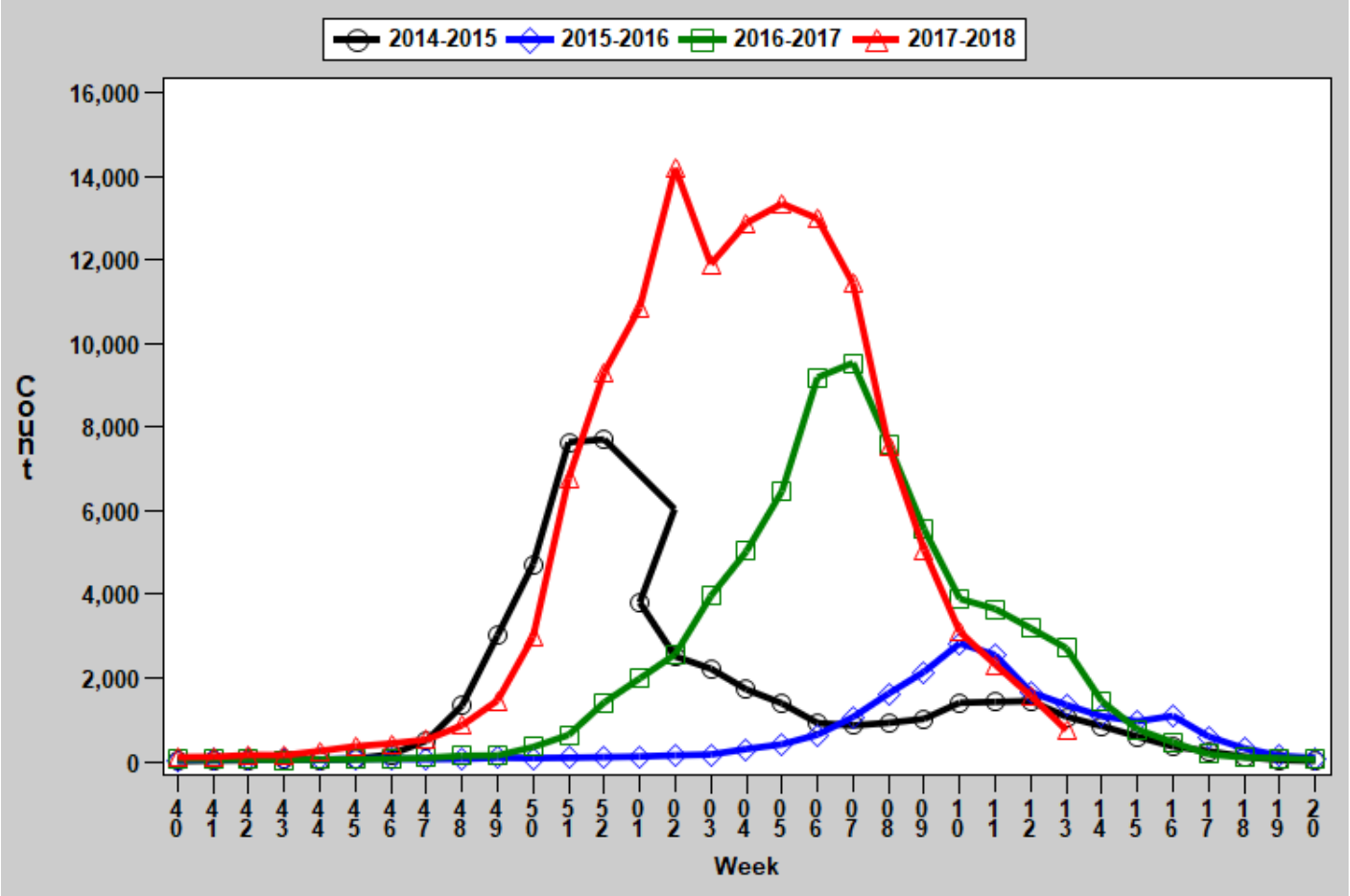
[‡]Incidence Rate per 100,000 population

Figure 4. Number of Laboratory-positive[†] Influenza Cases by CDC Week, Missouri, 2014-2018[*]



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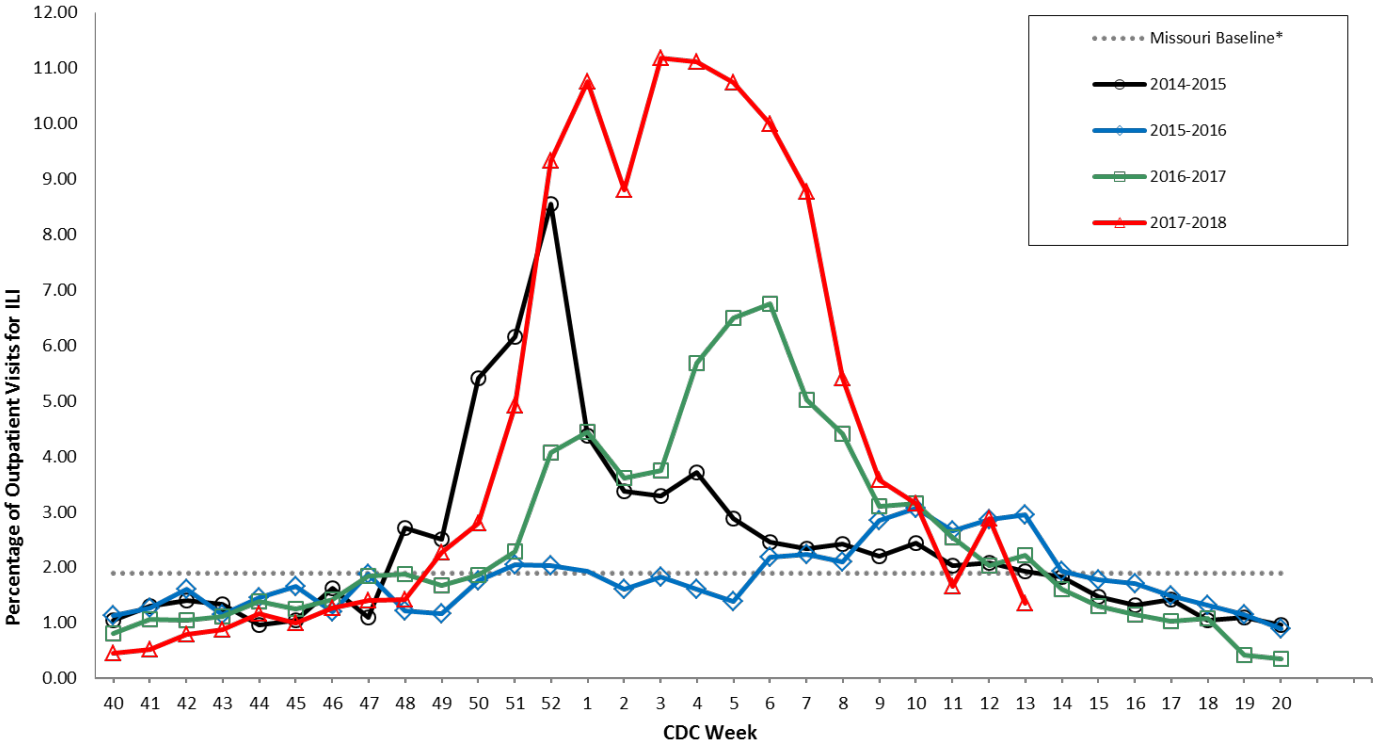
[*]2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. Week 53, 2014-2015 flu season has 3,082 reported confirmed cases. Data Source: Missouri Health Information Surveillance System (WebSurv).

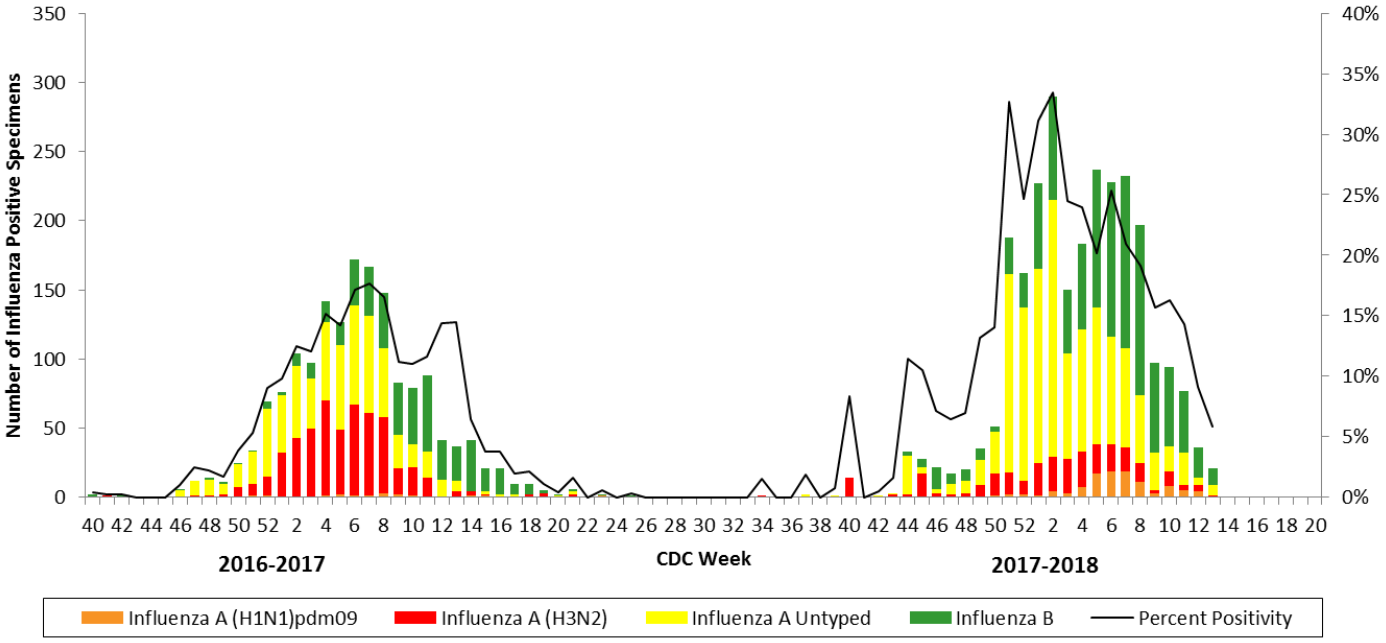
Figure 5. Percentage of Outpatient Visits for Influenza-like Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2014-2018*†



*The ILINet Region 7 (MO, IA, KS, NE) baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons, plus two standard deviations. A non-influenza week is defined as periods of two or more consecutive weeks in which each week accounted for less than 2% of the season's total number of specimens that tested positive for influenza.
Data Source: U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Centers for Disease Control and Prevention (CDC).

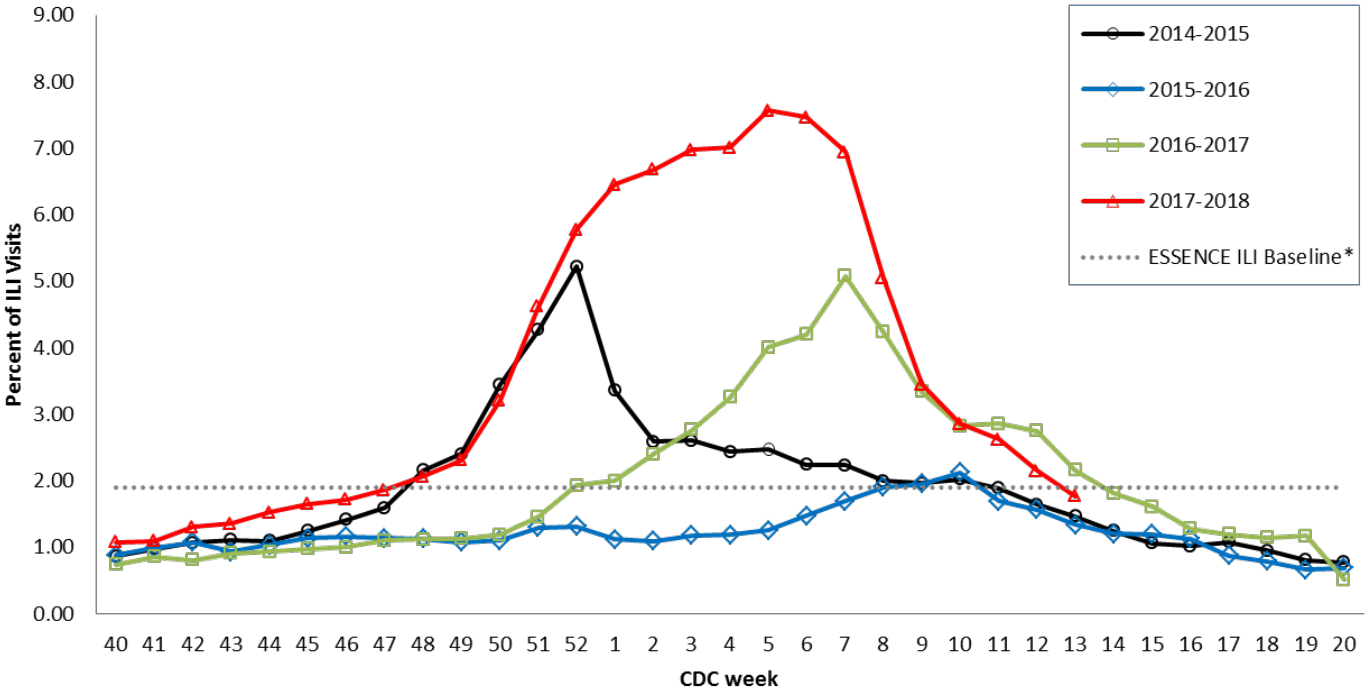
†2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of outpatient visits for ILI during Week 53 was 7.63.

Figure 6. Season-to-Date PCR (+) Tests for Influenza in Missouri



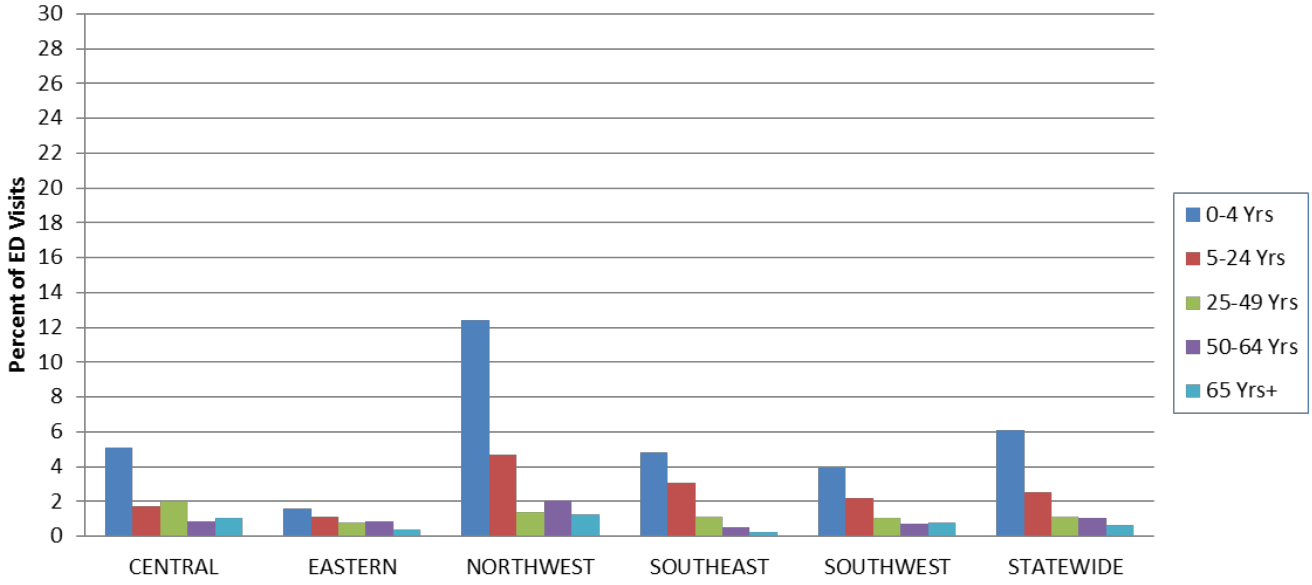
Data Source: National Respiratory and Enteric Virus Surveillance System (NREVSS), Centers for Disease Control and Prevention (CDC).
2016-2017 season-to-date through the week ending May 19, 2018 (Week 20).

Figure 7. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, 2014-2018 Influenza Seasons*†‡



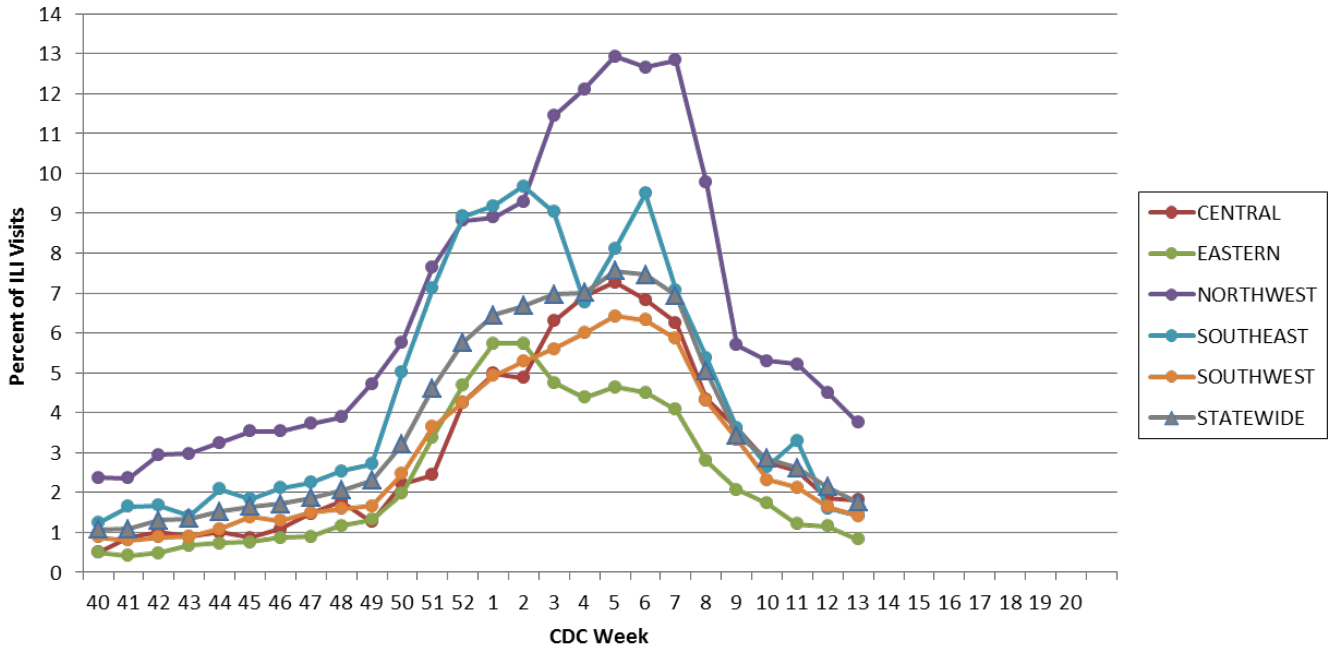
*The ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2014-16) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
†The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of visits for ILI in ESSENCE participating hospitals during Week 53 was 4.38%.
‡The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 8. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Age Group, Region and Statewide, Week 13, 2018*



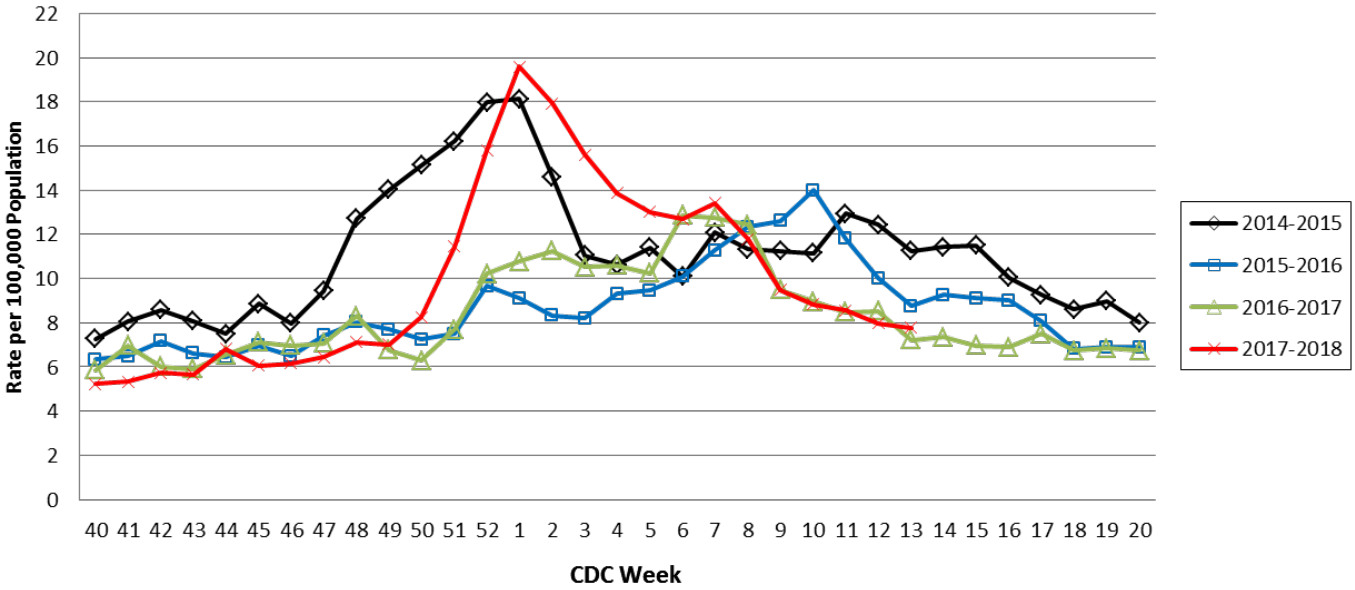
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 9. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Region and Statewide, 2017-2018 Influenza Season*



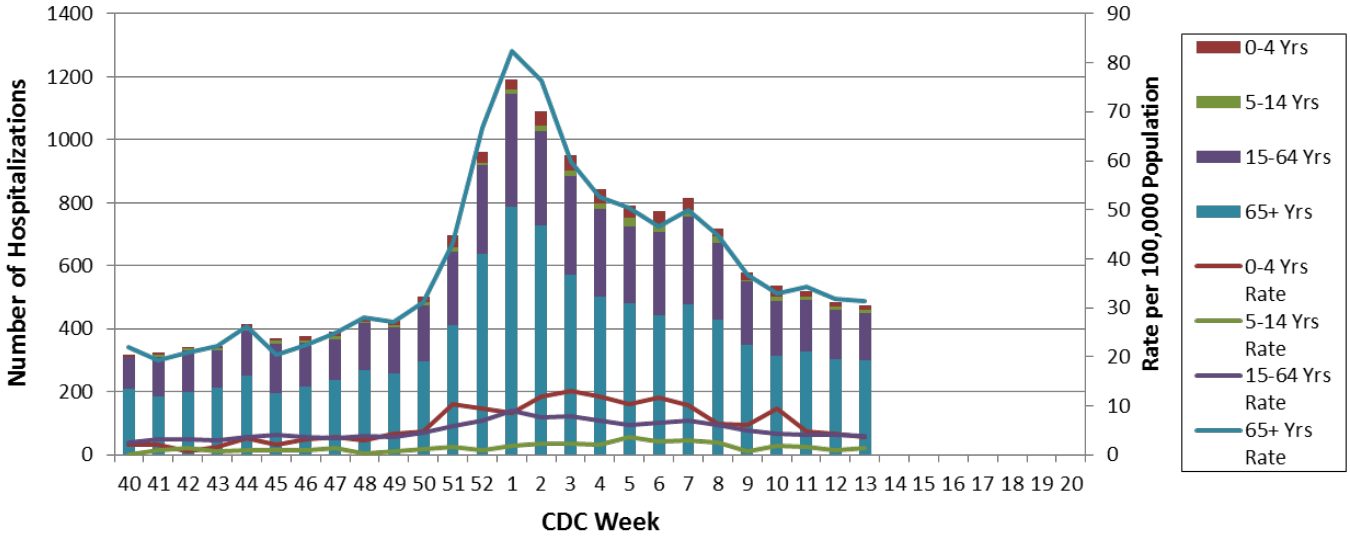
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 10. Weekly Rate of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Missouri Hospitals, 2014-2018 Influenza Seasons



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.
Population data from DHSS Population MICA 2015 (http://health.mo.gov/data/mica/mica/population.php).

Figure 11. Number of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Participating Missouri Hospitals, by Age Group, Week 13, 2017-2018 Influenza Season



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.

Additional Influenza Data Sources:

Centers for Disease Control and Prevention: National Influenza Surveillance (FluView): http://www.cdc.gov/flu/weekly/fluactivitysurv.htm

The National Respiratory and Enteric Virus Surveillance System (NREVSS): https://www.cdc.gov/surveillance/nrevss/

World Health Organization: International Influenza Surveillance: http://www.who.int/influenza/surveillance_monitoring/en/

Missouri Weekly Influenza Surveillance Report
2017-2018 Influenza Season[1]

Week 14: April 1 - 7, 2018

All data are preliminary and may change as more reports are received.

Summary:

- The estimated influenza activity in Missouri decreased to Local[2].

- During Week 14, a total of 386 laboratory-positive[3] influenza cases (134 influenza A, 249 influenza B, and 3 untyped) were reported. A season-to-date total of 132,123 laboratory-positive influenza cases (84,764 influenza A, 45,474 influenza B, and 1,885 untyped) have been reported in Missouri as of Week 14. The influenza type for reported season-to date cases includes 64% influenza A, 35% influenza B, and 1% untyped. Nine laboratory-positive cases of influenza (four influenza A (H1N1) and five influenza B (Yamagata)) were reported by the Missouri State Public Health Laboratory (MSPHL) during Week 14.

- Influenza-like illness (ILI) activity was below baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 1.61% (Figure 5) and 1.54% (Figure 7) through ILINet and ESSENCE respectively.[4] The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution. The percentage of respiratory specimens testing positive for influenza in Missouri laboratories reporting to the National Respiratory and Enteric Virus Surveillance System (NREVSS) decreased during Week 14 (Figure 6).

- Two hundred and seventy-two influenza-associated deaths have been reported in Missouri as of Week 14.[5] During Week 13, 77 deaths involving Pneumonia and Influenza (P&I) were reported to the Bureau of Vital Records, resulting in a season-to-date total of 1,754 P&I associated deaths in Missouri.[6]

- Sixty-nine outbreaks of influenza or ILI have been reported and 15 influenza or ILI-associated school closures have been reported in Missouri as of Week 14.

- Influenza activity decreased in the U.S. during Week 13. National influenza surveillance information is prepared by CDC and is included in the weekly FluView report, which is available online at http://www.cdc.gov/flu/weekly/fluactivitysurv.htm.

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[1]The 2017-2018 influenza season begins CDC Week 40 (week ending October 7, 2017) and ends CDC Week 39 (week ending September 29, 2018).

[2]Local is defined as: Outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in a single region of the state.

[3]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

[4]Influenza-like illness (ILI) is defined by ILINet as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza. ILI is defined by ESSENCE as Emergency Department chief complaints for Influenza or (FeverPlus and (Cough or SoreThroat) and not NonILIFevers).

[5]All influenza-associated deaths became reportable in Missouri in 2016.

[6]The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

Surveillance Data:

Interactive Maps

The jurisdiction-specific influenza data are provided though interactive maps available at http://arcg.is/1ySuXi. *Click on the jurisdiction to view the influenza data specific to that jurisdiction.*

- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, CDC Week 14**
- **Reported Week-specific Rate per 100,000 Population, CDC Week 14**
- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, Season-to-Date**
- **Reported Rate per 100,000 Population, Season-to-Date**

Data Figures

Figure 1. Number of Laboratory-positive† Influenza Cases by Influenza Type, Missouri, CDC Week 14 (April 1 - 7, 2018)*

Influenza Type	Week 12	Week 13	Week 14	2017-2018* Season-to-Date
Influenza A	521	314	134	84,764
Influenza B	1,067	589	249	45,474
Influenza Unknown Or Untyped	20	13	3	1,885
Total	1,608	916	386	132,123

†Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 2. Number of Laboratory-positive† Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 14 (April 1 - 7, 2018)*‡

Age Group	Week 14 Cases	Week 14 Rate‡	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate‡
00-04	57	15.23	20,331	5,430.87
05-24	96	5.98	46,823	2,918.20
25-49	84	4.39	26,430	1,381.24
50-64	75	6.07	18,959	1,533.43
65+	74	7.75	19,580	2,050.43
Total	386	6.34	132,123	2,171.76

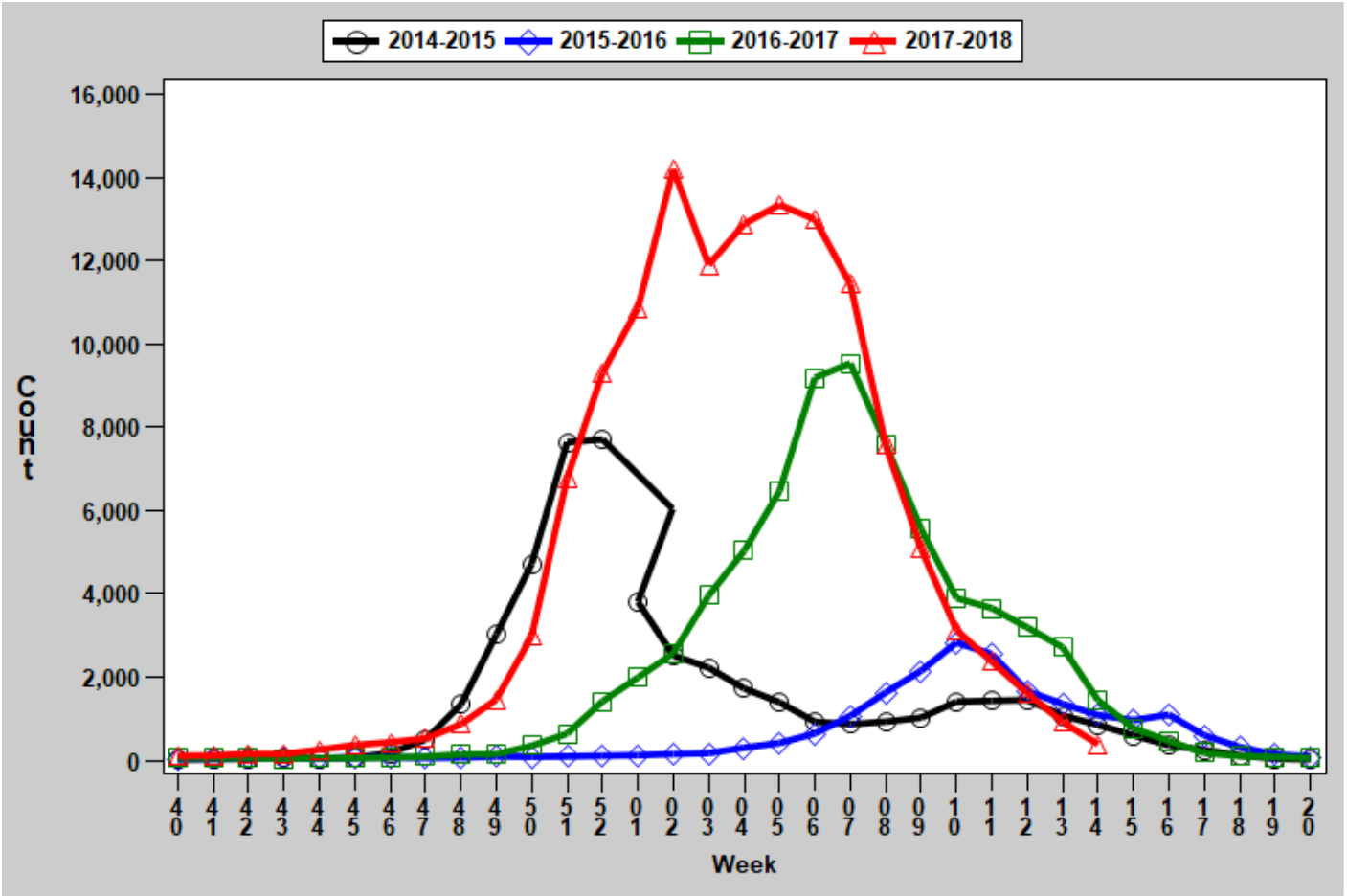
†Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
‡Incidence Rate per 100,000 population

Figure 3. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Region, Missouri, CDC Week 14 (April 1 - 7, 2018)[*‡]

Region	Week 14 Cases	Week 14 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
Central	38	5.61	18,044	2,665.30
Eastern	165	7.28	40,616	1,792.29
Northwest	103	6.45	37,745	2,362.72
Southeast	22	4.66	14,725	3,121.69
Southwest	58	5.41	20,993	1,959.58
Total	386	6.34	132,123	2,171.76

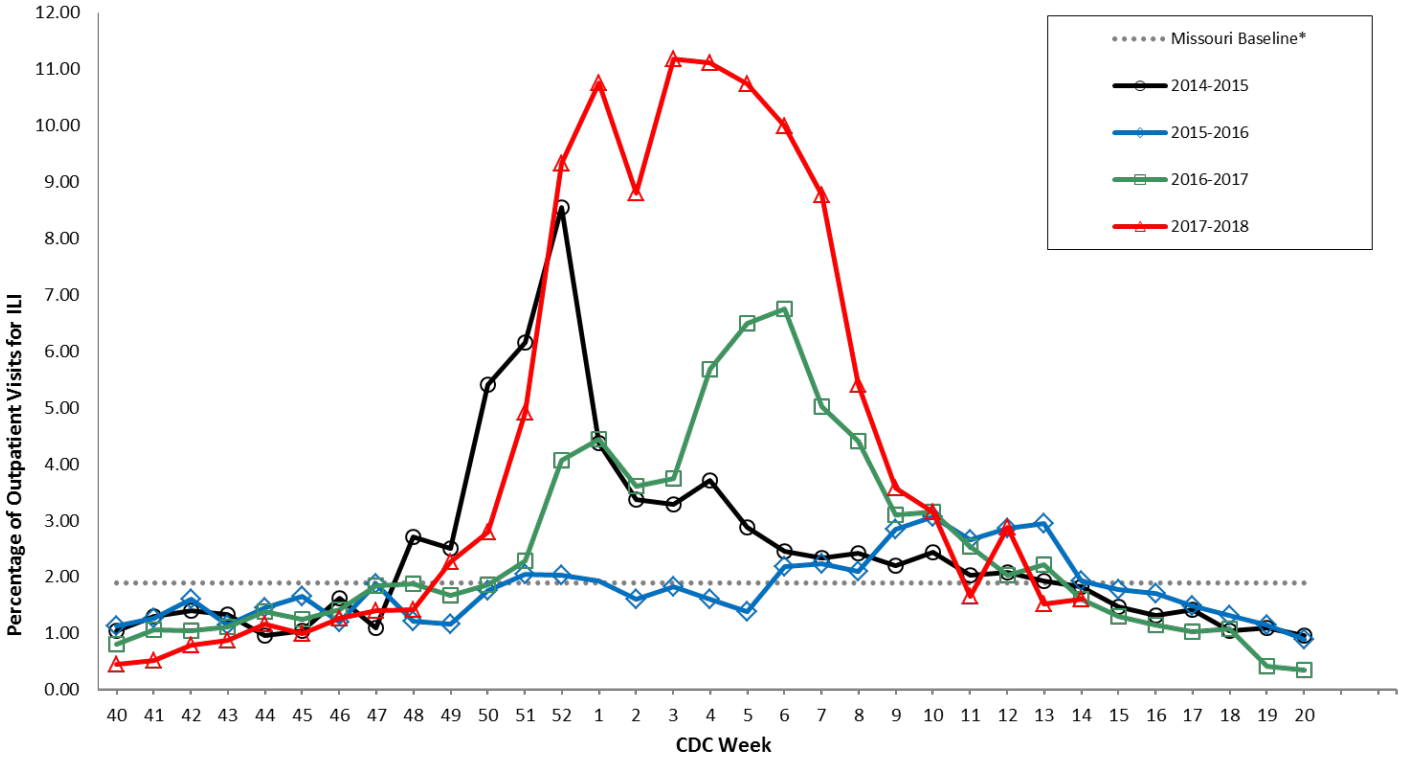
[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 4. Number of Laboratory-positive[†] Influenza Cases by CDC Week, Missouri, 2014-2018[*]



[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. Week 53, 2014-2015 flu season has 3,082 reported confirmed cases. Data Source: Missouri Health Information Surveillance System (WebSurv).

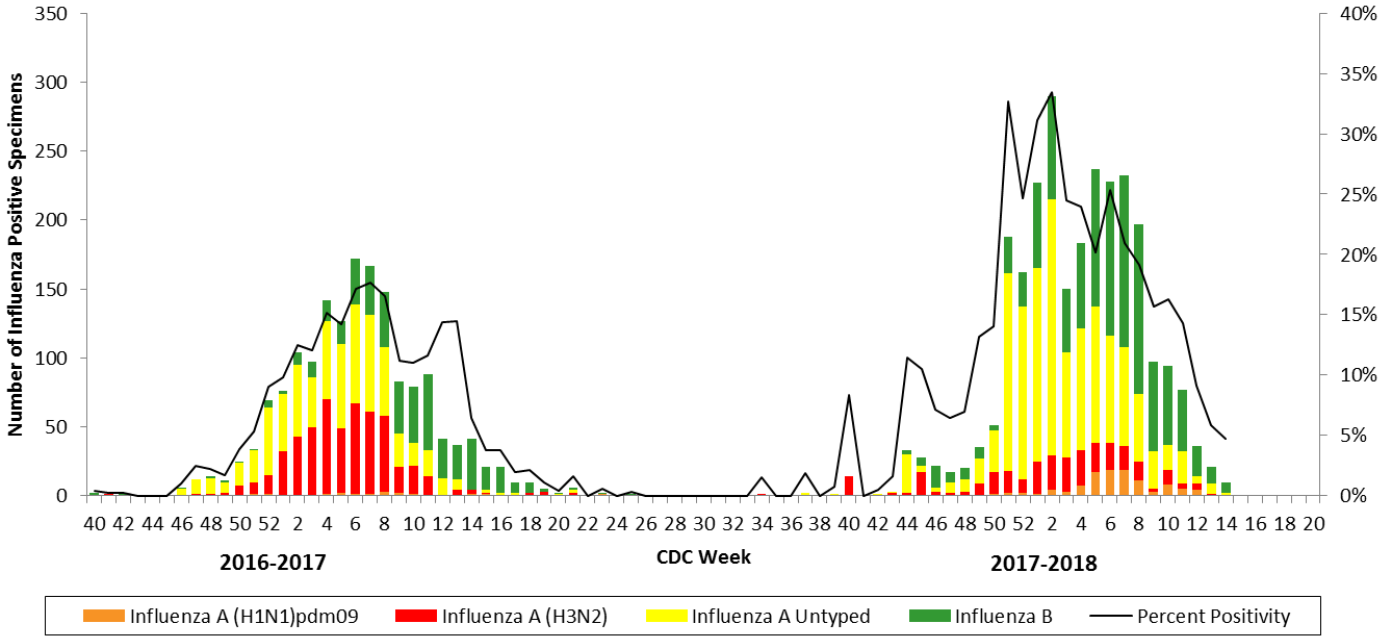
Figure 5. Percentage of Outpatient Visits for Influenza-like Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2014-2018*†



*The ILINet Region 7 (MO, IA, KS, NE) baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons, plus two standard deviations. A non-influenza week is defined as periods of two or more consecutive weeks in which each week accounted for less than 2% of the season's total number of specimens that tested positive for influenza.
Data Source: U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Centers for Disease Control and Prevention (CDC).

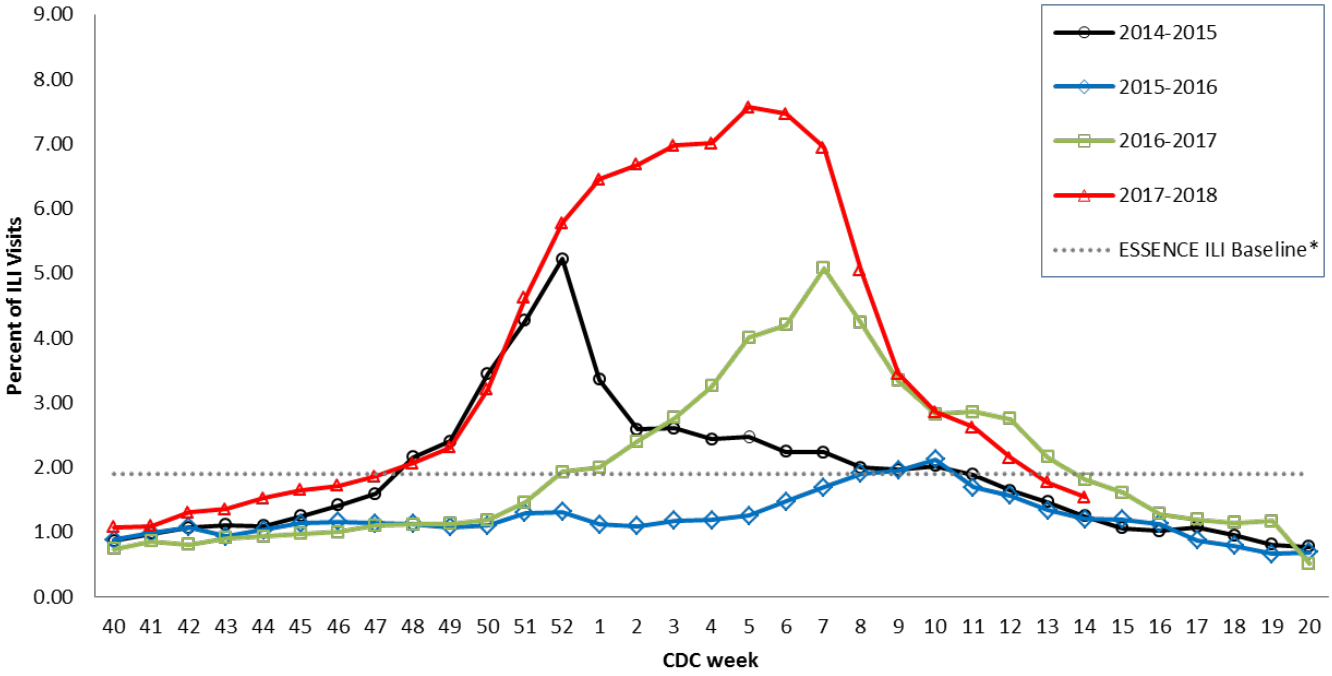
†2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of outpatient visits for ILI during Week 53 was 7.63.

Figure 6. Season-to-Date PCR (+) Tests for Influenza in Missouri



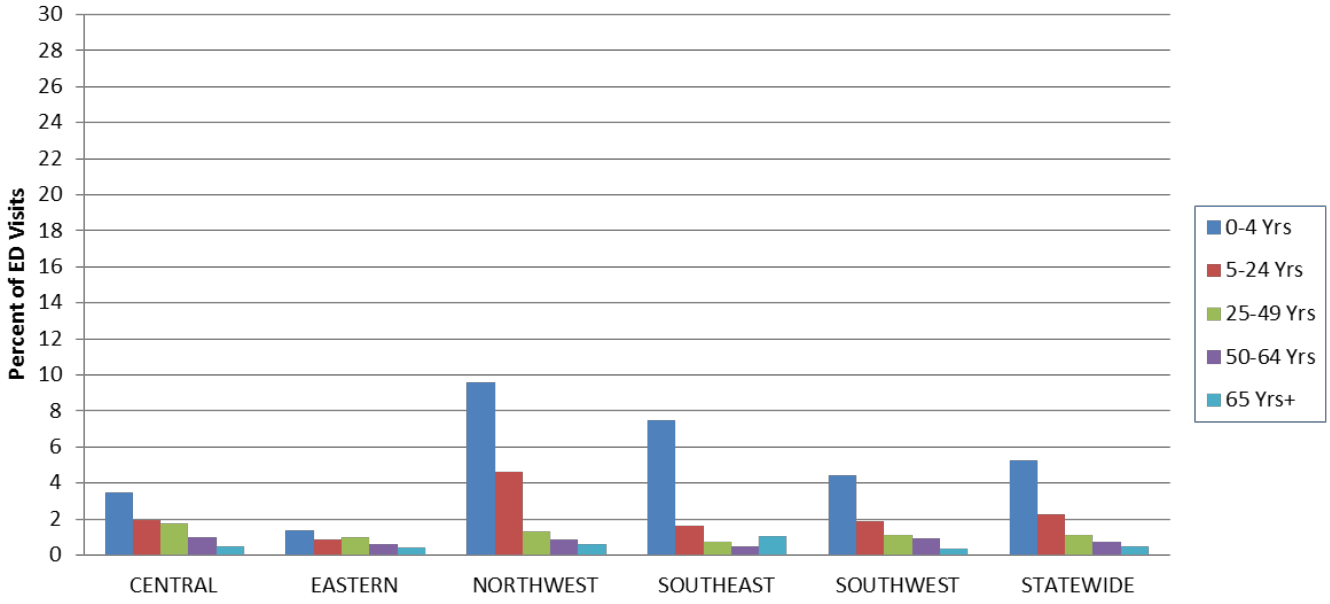
Data Source: National Respiratory and Enteric Virus Surveillance System (NREVSS), Centers for Disease Control and Prevention (CDC).
2016-2017 season-to-date through the week ending May 19, 2018 (Week 20).

Figure 7. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, 2014-2018 Influenza Seasons*†‡



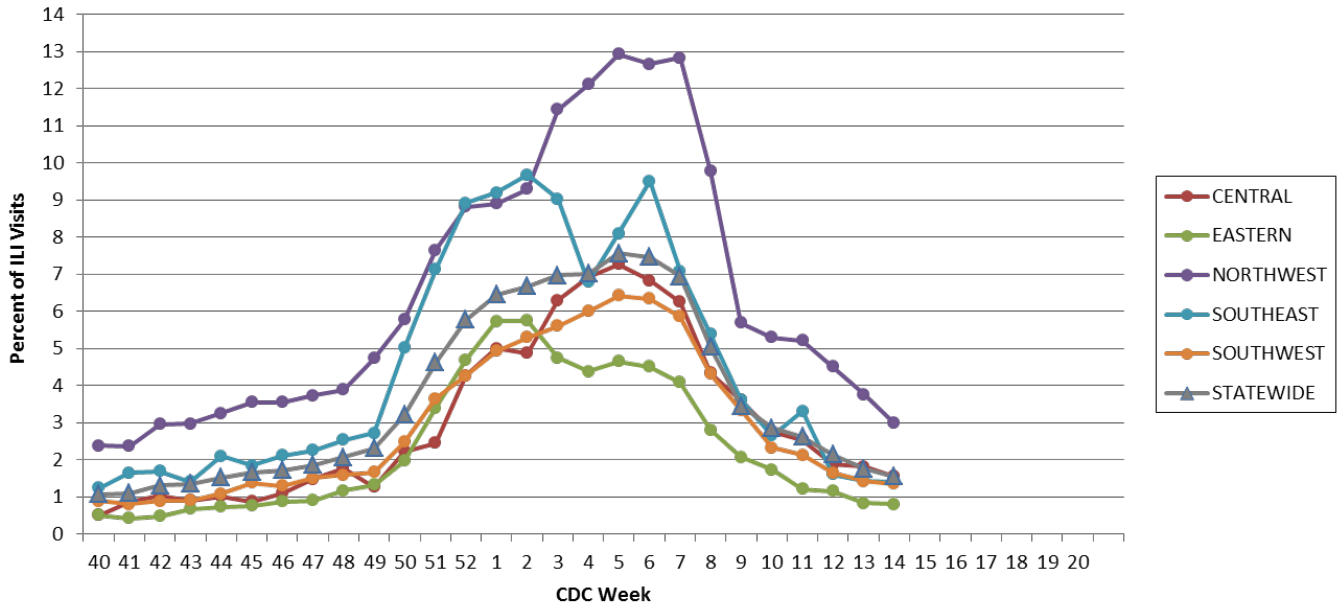
*The ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2014-16) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
†The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of visits for ILI in ESSENCE participating hospitals during Week 53 was 4.38%.
‡The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 8. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Age Group, Region and Statewide, Week 14, 2018*



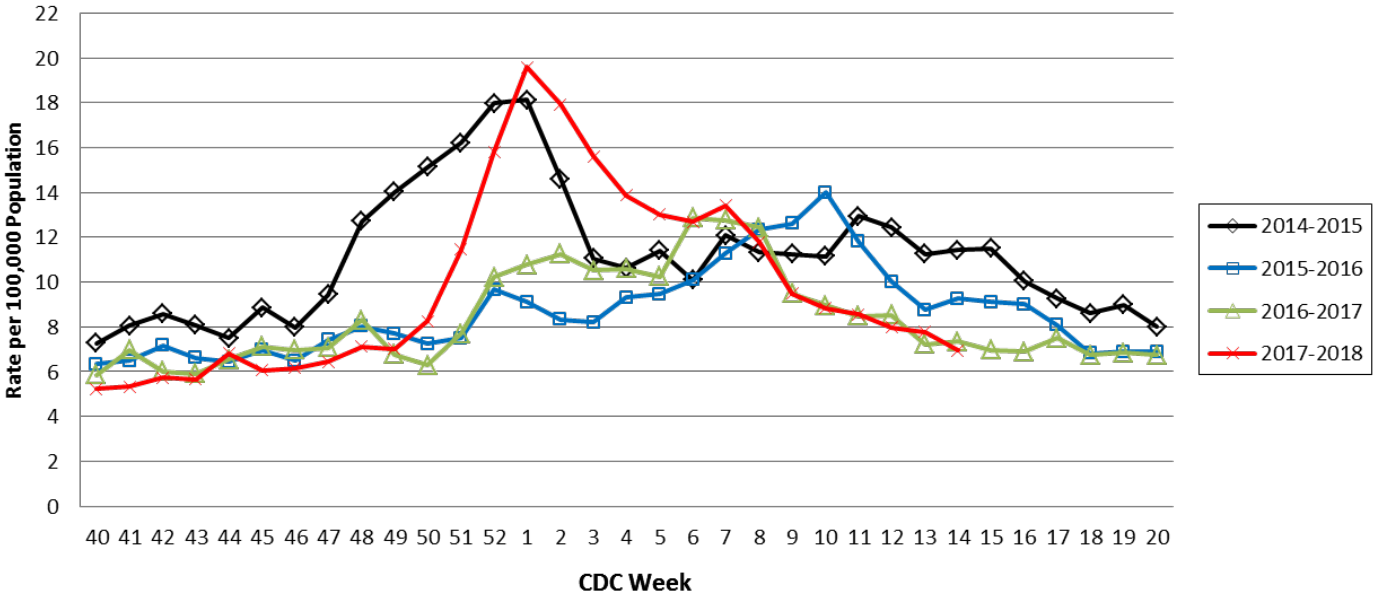
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 9. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Region and Statewide, 2017-2018 Influenza Season*



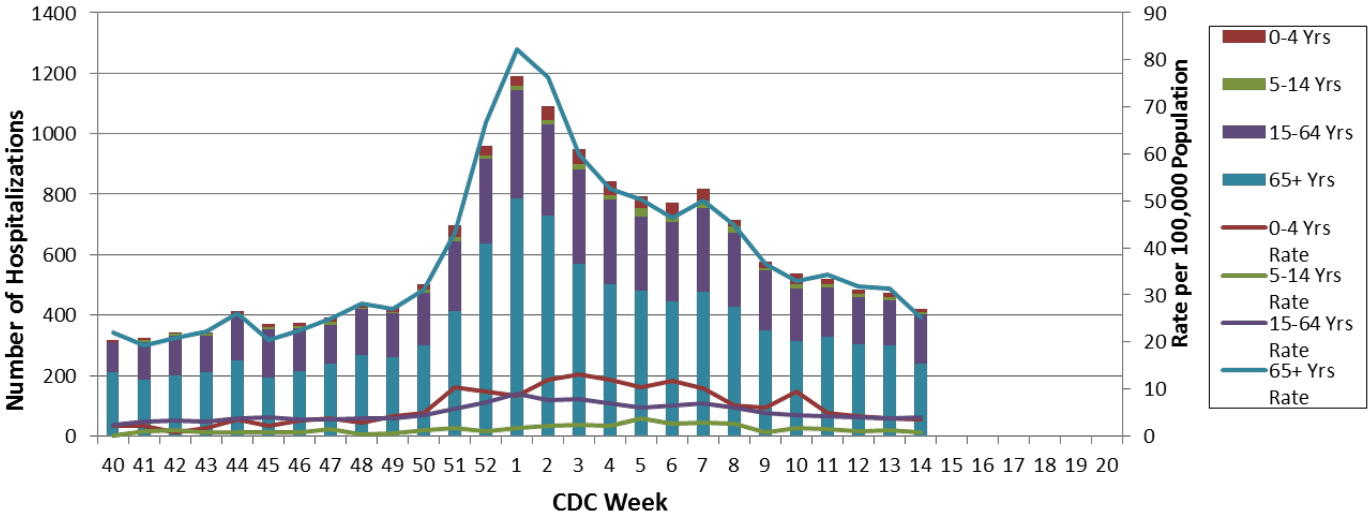
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 10. Weekly Rate of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Missouri Hospitals, 2014-2018 Influenza Seasons



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.
Population data from DHSS Population MICA 2015 (http://health.mo.gov/data/mica/mica/population.php).

Figure 11. Number of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Participating Missouri Hospitals, by Age Group, Week 14, 2017-2018 Influenza Season



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.

Additional Influenza Data Sources:

Centers for Disease Control and Prevention: National Influenza Surveillance (FluView):
http://www.cdc.gov/flu/weekly/fluactivitysurv.htm

The National Respiratory and Enteric Virus Surveillance System (NREVSS):
https://www.cdc.gov/surveillance/nrevss/

World Health Organization: International Influenza Surveillance:
http://www.who.int/influenza/surveillance_monitoring/en/

Missouri Weekly Influenza Surveillance Report
2017-2018 Influenza Season[1]

Week 15: April 8 - 14, 2018

All data are preliminary and may change as more reports are received.

Summary:

- The estimated influenza activity in Missouri is Local[2].

- During Week 15, a total of 281 laboratory-positive[3] influenza cases (90 influenza A, 185 influenza B, and six untyped) were reported. A season-to-date total of 133,060 laboratory-positive influenza cases (85,070 influenza A, 46,097 influenza B, and 1,893 untyped) have been reported in Missouri as of Week 15. The influenza type for reported season-to date cases includes 64% influenza A, 35% influenza B, and 1% untyped. Nine laboratory-positive cases of influenza (three influenza A (H1N1), four influenza A (H3), and two influenza B (Victoria)) were reported by the Missouri State Public Health Laboratory (MSPHL) during Week 15.

- Influenza-like illness (ILI) activity was below baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 1.21% (Figure 5) and 1.39% (Figure 7) through ILINet and ESSENCE respectively.[4] The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution. The percentage of respiratory specimens testing positive for influenza in Missouri laboratories reporting to the National Respiratory and Enteric Virus Surveillance System (NREVSS) decreased during Week 15 (Figure 6).

- Two hundred and seventy-five influenza-associated deaths have been reported in Missouri as of Week 15.[5] During Week 14, 49 deaths involving Pneumonia and Influenza (P&I) were reported to the Bureau of Vital Records, resulting in a season-to-date total of 1,803 P&I associated deaths in Missouri.[6]

- Sixty-nine outbreaks of influenza or ILI have been reported and 15 influenza or ILI-associated school closures have been reported in Missouri as of Week 15.

- Influenza activity decreased in the U.S. during Week 14. National influenza surveillance information is prepared by CDC and is included in the weekly FluView report, which is available online at http://www.cdc.gov/flu/weekly/fluactivitysurv.htm.

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[1]The 2017-2018 influenza season begins CDC Week 40 (week ending October 7, 2017) and ends CDC Week 39 (week ending September 29, 2018).

[2]Local is defined as: Outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in a single region of the state.

[3]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

[4]Influenza-like illness (ILI) is defined by ILINet as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza. ILI is defined by ESSENCE as Emergency Department chief complaints for Influenza or (FeverPlus and (Cough or SoreThroat) and not NonILIFevers).

[5]All influenza-associated deaths became reportable in Missouri in 2016.

[6]The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

Surveillance Data:

Interactive Maps

The jurisdiction-specific influenza data are provided though interactive maps available at http://arcg.is/01e4SK. *Click on the jurisdiction to view the influenza data specific to that jurisdiction.*

- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, CDC Week 15**
- **Reported Week-specific Rate per 100,000 Population, CDC Week 15**
- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, Season-to-Date**
- **Reported Rate per 100,000 Population, Season-to-Date**

Data Figures

Figure 1. Number of Laboratory-positive† Influenza Cases by Influenza Type, Missouri, CDC Week 15 (April 8 - 14, 2018)*

Influenza Type	Week 13	Week 14	Week 15	2017-2018* Season-to-Date
Influenza A	358	206	90	85,070
Influenza B	704	403	185	46,097
Influenza Unknown Or Untyped	14	4	6	1,893
Total	1,076	613	281	133,060

†Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 2. Number of Laboratory-positive† Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 15 (April 8 - 14, 2018)*‡

Age Group	Week 15 Cases	Week 15 Rate‡	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate‡
00-04	35	9.35	20,462	5,465.86
05-24	57	3.55	47,046	2,932.10
25-49	64	3.34	26,665	1,393.52
50-64	53	4.29	19,126	1,546.94
65+	72	7.54	19,761	2,069.38
Total	281	4.62	133,060	2,187.17

†Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
‡Incidence Rate per 100,000 population

Figure 3. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Region, Missouri, CDC Week 15 (April 8 - 14, 2018)[*‡]

Region	Week 15 Cases	Week 15 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
Central	72	10.64	18,156	2,681.84
Eastern	101	4.46	41,037	1,810.87
Northwest	48	3.00	38,061	2,382.50
Southeast	34	7.21	14,780	3,133.35
Southwest	26	2.43	21,026	1,962.66
Total	281	4.62	133,060	2,187.17

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
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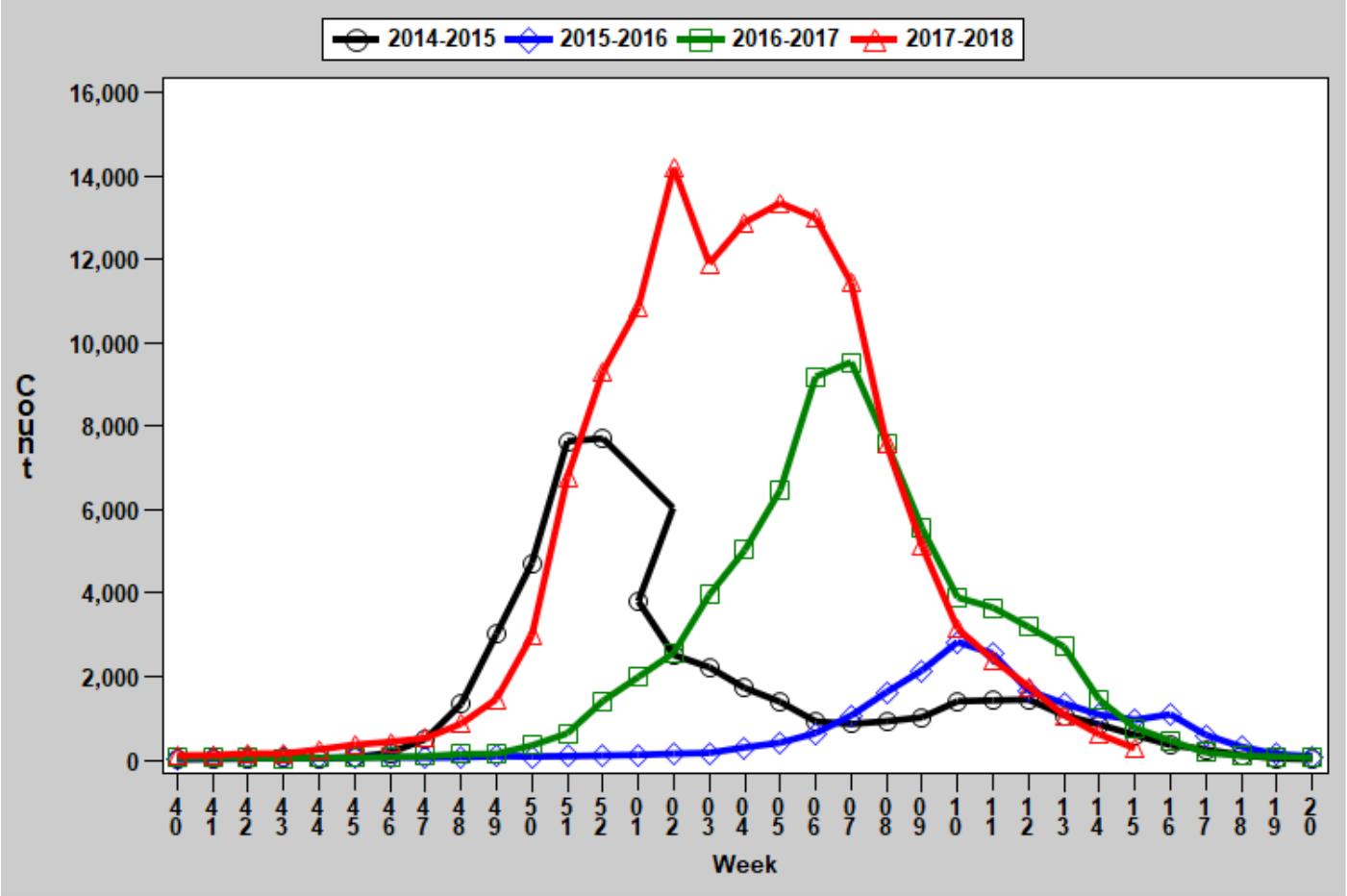
[‡]Incidence Rate per 100,000 population

Figure 4. Number of Laboratory-positive[†] Influenza Cases by CDC Week, Missouri, 2014-2018[*]



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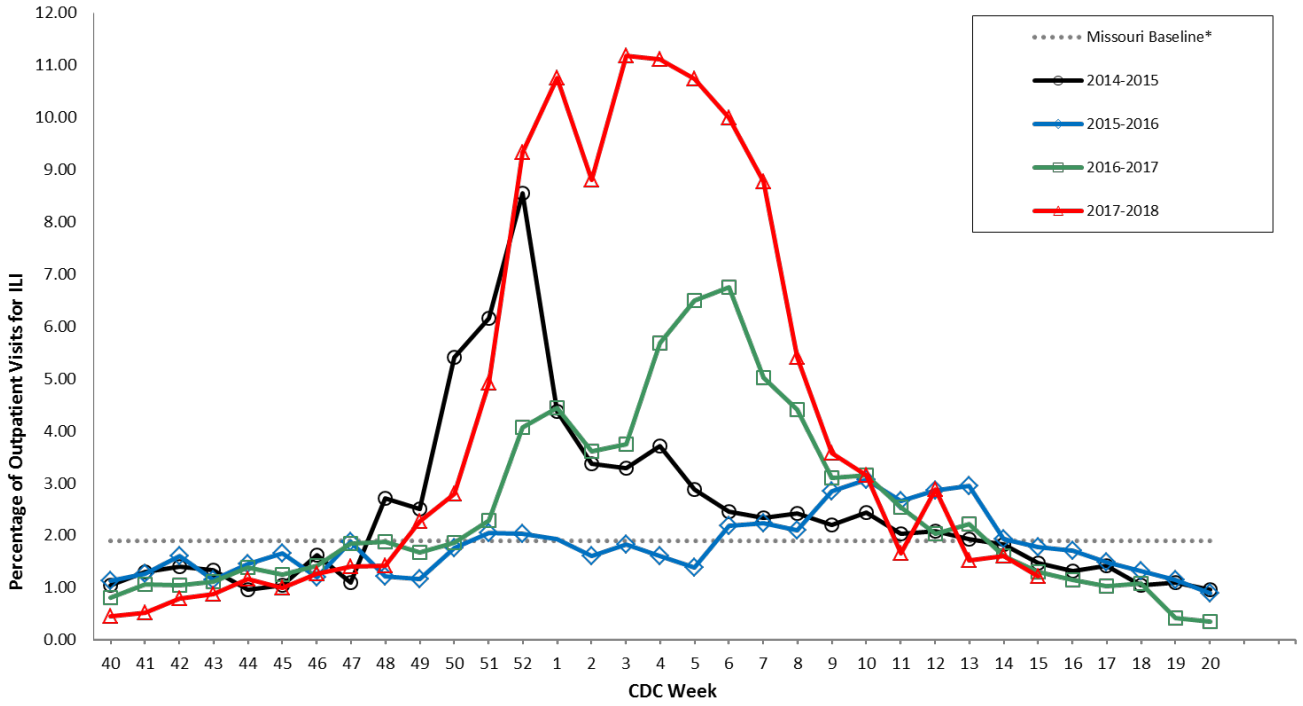
[*]2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. Week 53, 2014-2015 flu season has 3,082 reported confirmed cases. Data Source: Missouri Health Information Surveillance System (WebSurv).

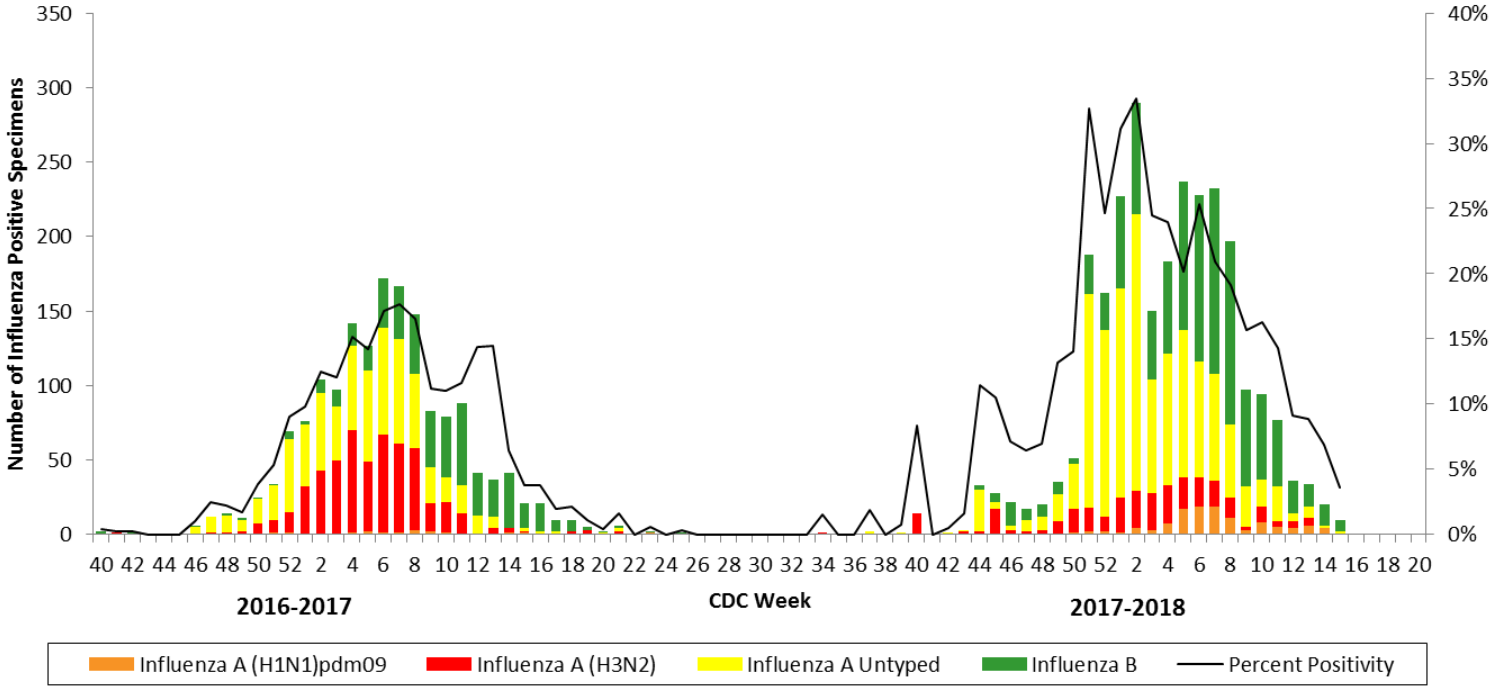
Figure 5. Percentage of Outpatient Visits for Influenza-like Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2014-2018*†



*The ILINet Region 7 (MO, IA, KS, NE) baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons, plus two standard deviations. A non-influenza week is defined as periods of two or more consecutive weeks in which each week accounted for less than 2% of the season's total number of specimens that tested positive for influenza.
Data Source: U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Centers for Disease Control and Prevention (CDC).

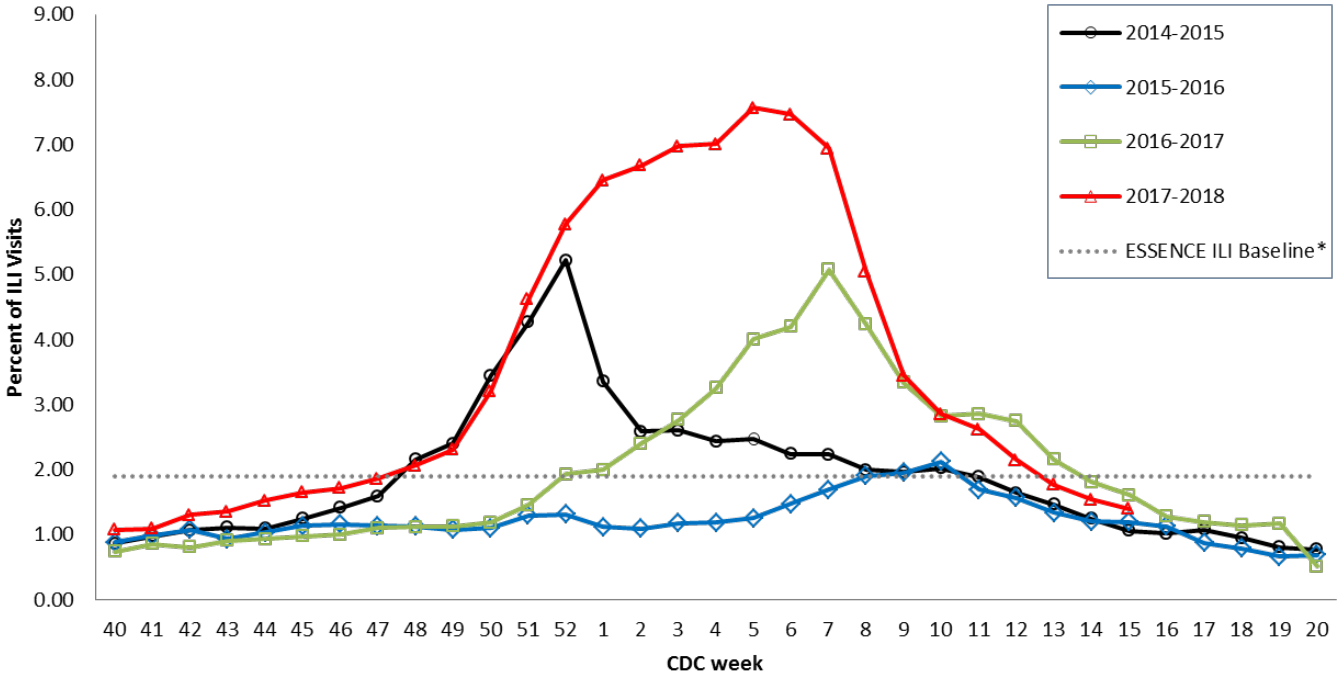
†2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of outpatient visits for ILI during Week 53 was 7.63.

Figure 6. Season-to-Date PCR (+) Tests for Influenza in Missouri



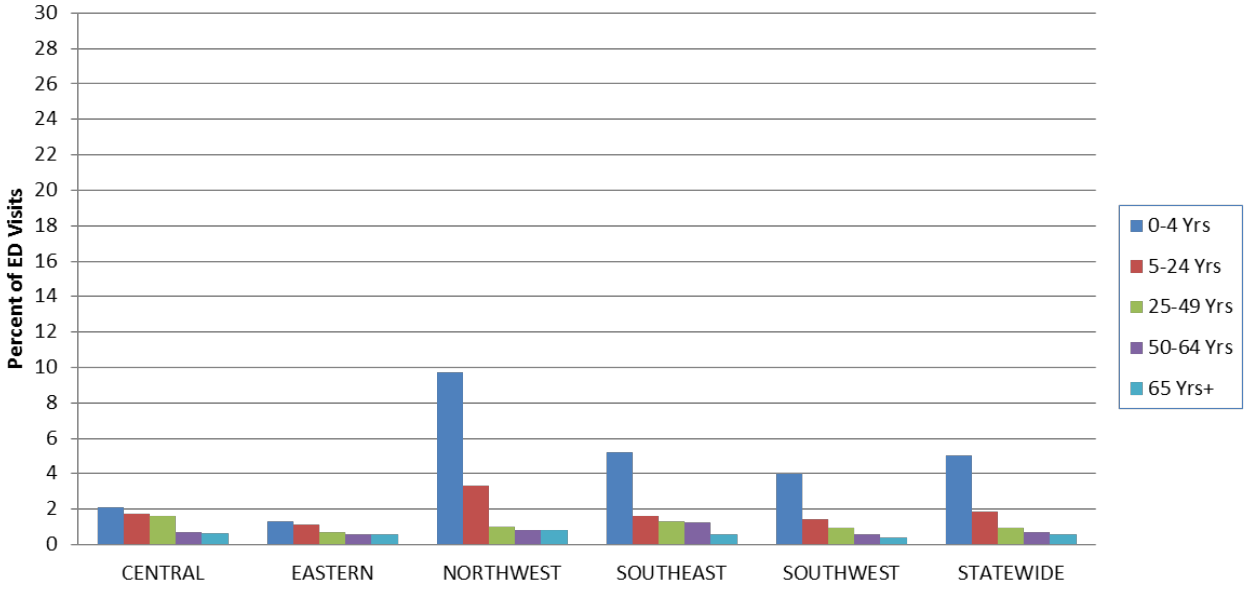
Data Source: National Respiratory and Enteric Virus Surveillance System (NREVSS), Centers for Disease Control and Prevention (CDC).
2016-2017 season-to-date through the week ending May 19, 2018 (Week 20).

Figure 7. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, 2014-2018 Influenza Seasons*†‡



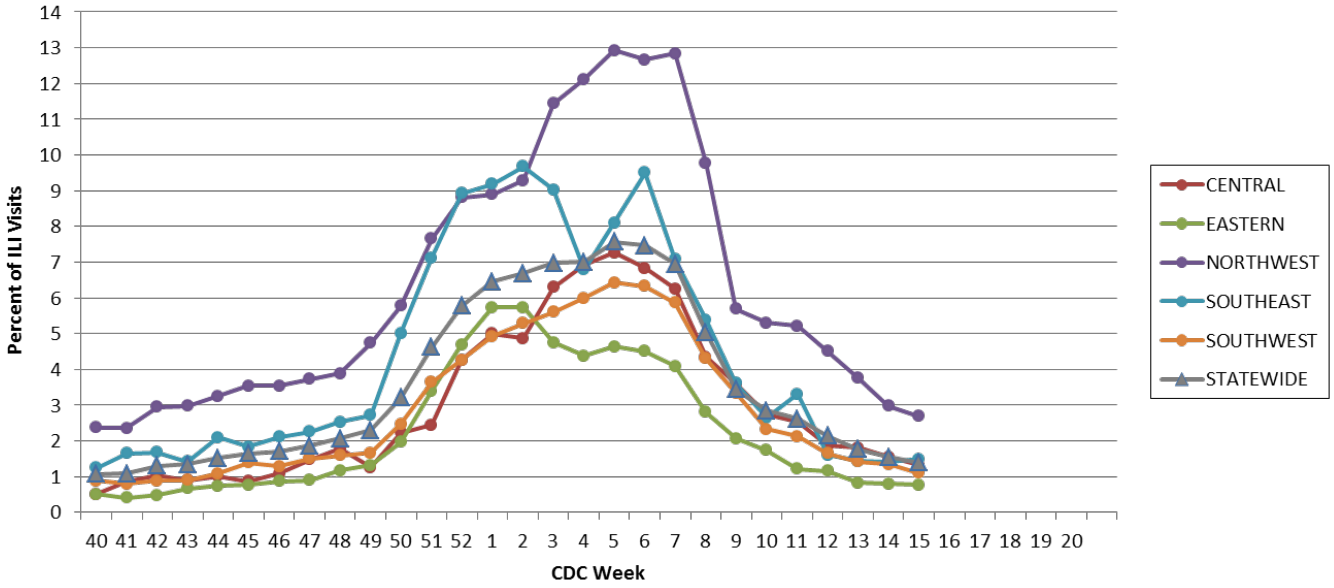
*The ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2014-16) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
†The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of visits for ILI in ESSENCE participating hospitals during Week 53 was 4.38%.
‡The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 8. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Age Group, Region and Statewide, Week 15, 2018*



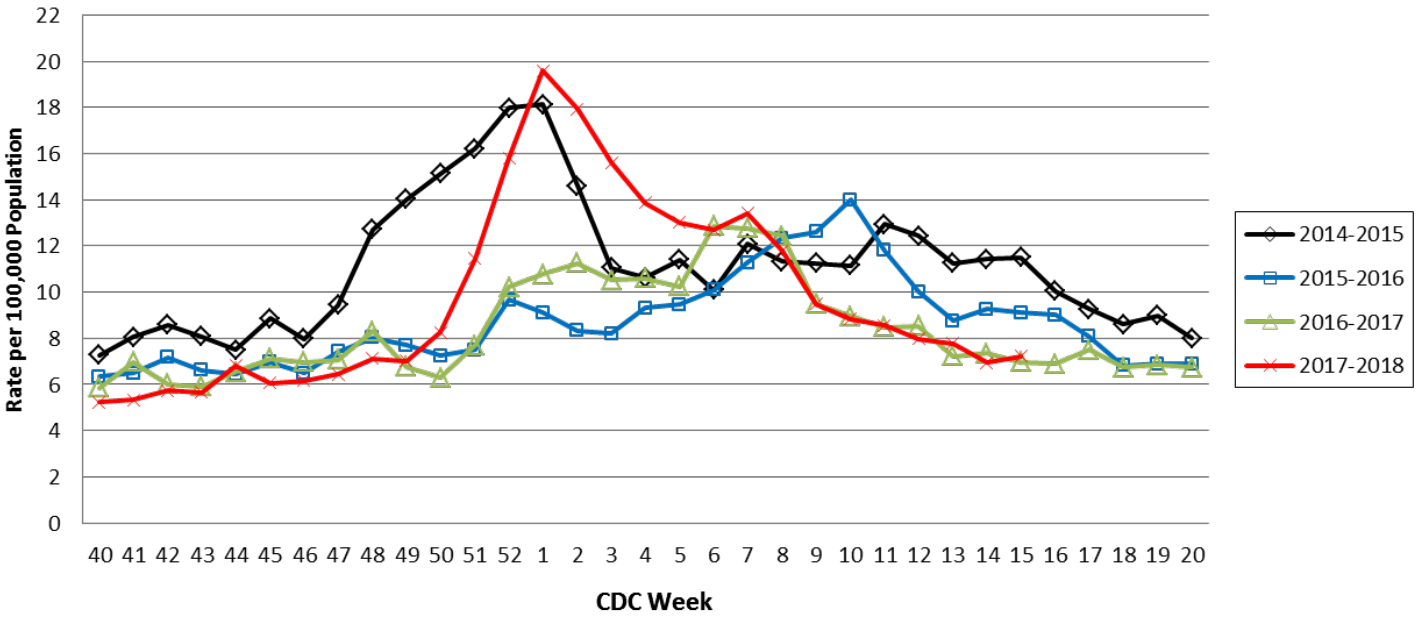
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 9. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Region and Statewide, 2017-2018 Influenza Season*



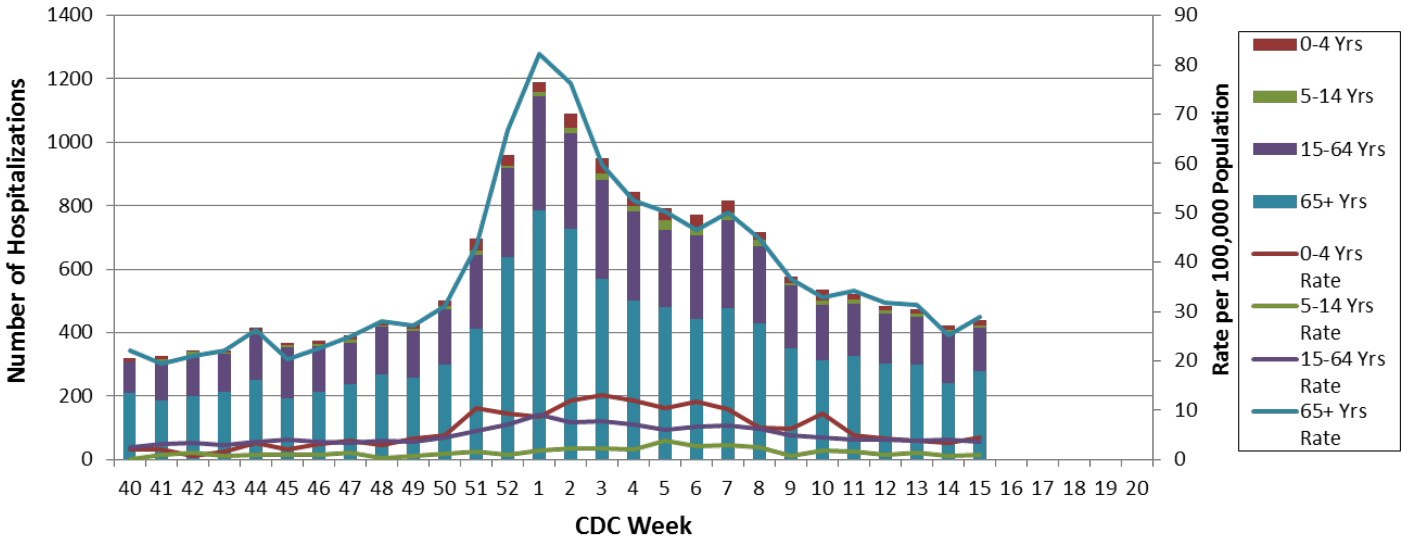
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 10. Weekly Rate of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Missouri Hospitals, 2014-2018 Influenza Seasons



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.
Population data from DHSS Population MICA 2015 (http://health.mo.gov/data/mica/mica/population.php).

Figure 11. Number of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Participating Missouri Hospitals, by Age Group, Week 15, 2017-2018 Influenza Season



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.

Additional Influenza Data Sources:

Centers for Disease Control and Prevention: National Influenza Surveillance (FluView): http://www.cdc.gov/flu/weekly/fluactivitysurv.htm

The National Respiratory and Enteric Virus Surveillance System (NREVSS): https://www.cdc.gov/surveillance/nrevss/

World Health Organization: International Influenza Surveillance: http://www.who.int/influenza/surveillance_monitoring/en/

Missouri Weekly Influenza Surveillance Report
2017-2018 Influenza Season[1]

Week 16: April 15 - 21, 2018

All data are preliminary and may change as more reports are received.

Summary:

- The estimated influenza activity in Missouri is Local[2].

- During Week 16, a total of 167 laboratory-positive[3] influenza cases (51 influenza A, 114 influenza B, and two untyped) were reported. A season-to-date total of 133,284 laboratory-positive influenza cases (85,141 influenza A, 46,248 influenza B, and 1,895 untyped) have been reported in Missouri as of Week 16. The influenza type for reported season-to date cases includes 64% influenza A, 35% influenza B, and 1% untyped. Eight laboratory-positive cases of influenza (two influenza A (H1N1), two influenza A (H3), and four influenza B (Yamagata)) were reported by the Missouri State Public Health Laboratory (MSPHL) during Week 16.

- Influenza-like illness (ILI) activity was below baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 0.85% (Figure 5) and 1.11% (Figure 7) through ILINet and ESSENCE respectively.[4] The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution. The percentage of respiratory specimens testing positive for influenza in Missouri laboratories reporting to the National Respiratory and Enteric Virus Surveillance System (NREVSS) remained low during Week 16 (Figure 6).

- Two hundred and seventy-six influenza-associated deaths have been reported in Missouri as of Week 16.[5] During Week 15, 58 deaths involving Pneumonia and Influenza (P&I) were reported to the Bureau of Vital Records, resulting in a season-to-date total of 1,861 P&I associated deaths in Missouri.[6]

- Sixty-nine outbreaks of influenza or ILI have been reported and 15 influenza or ILI-associated school closures have been reported in Missouri as of Week 16.

- Influenza activity decreased in the U.S. during Week 15. National influenza surveillance information is prepared by CDC and is included in the weekly FluView report, which is available online at http://www.cdc.gov/flu/weekly/fluactivitysurv.htm.

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[1]The 2017-2018 influenza season begins CDC Week 40 (week ending October 7, 2017) and ends CDC Week 39 (week ending September 29, 2018).

[2]Local is defined as: Outbreaks of influenza or increases in ILI cases and recent laboratory-confirmed influenza in a single region of the state.

[3]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

[4]Influenza-like illness (ILI) is defined by ILINet as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza. ILI is defined by ESSENCE as Emergency Department chief complaints for Influenza or (FeverPlus and (Cough or SoreThroat) and not NonILIFevers).

[5]All influenza-associated deaths became reportable in Missouri in 2016.

[6]The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

Surveillance Data:

Interactive Maps

The jurisdiction-specific influenza data are provided though interactive maps available at http://arcg.is/1DCXHX. *Click on the jurisdiction to view the influenza data specific to that jurisdiction.*

- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, CDC Week 16**
- **Reported Week-specific Rate per 100,000 Population, CDC Week 16**
- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, Season-to-Date**
- **Reported Rate per 100,000 Population, Season-to-Date**

Data Figures

Figure 1. Number of Laboratory-positive† Influenza Cases by Influenza Type, Missouri, CDC Week 16 (April 15 - 21, 2018)*

Influenza Type	Week 14	Week 15	Week 16	2017-2018* Season-to-Date
Influenza A	207	108	51	85,141
Influenza B	405	215	114	46,248
Influenza Unknown Or Untyped	4	6	2	1,895
Total	616	329	167	133,284

†Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 2. Number of Laboratory-positive† Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 16 (April 15 - 21, 2018)*‡

Age Group	Week 16 Cases	Week 16 Rate‡	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate‡
00-04	22	5.88	20,492	5,473.88
05-24	47	2.93	47,107	2,935.90
25-49	38	1.99	26,714	1,396.08
50-64	27	2.18	19,167	1,550.26
65+	33	3.46	19,804	2,073.89
Total	167	2.75	133,284	2,190.85

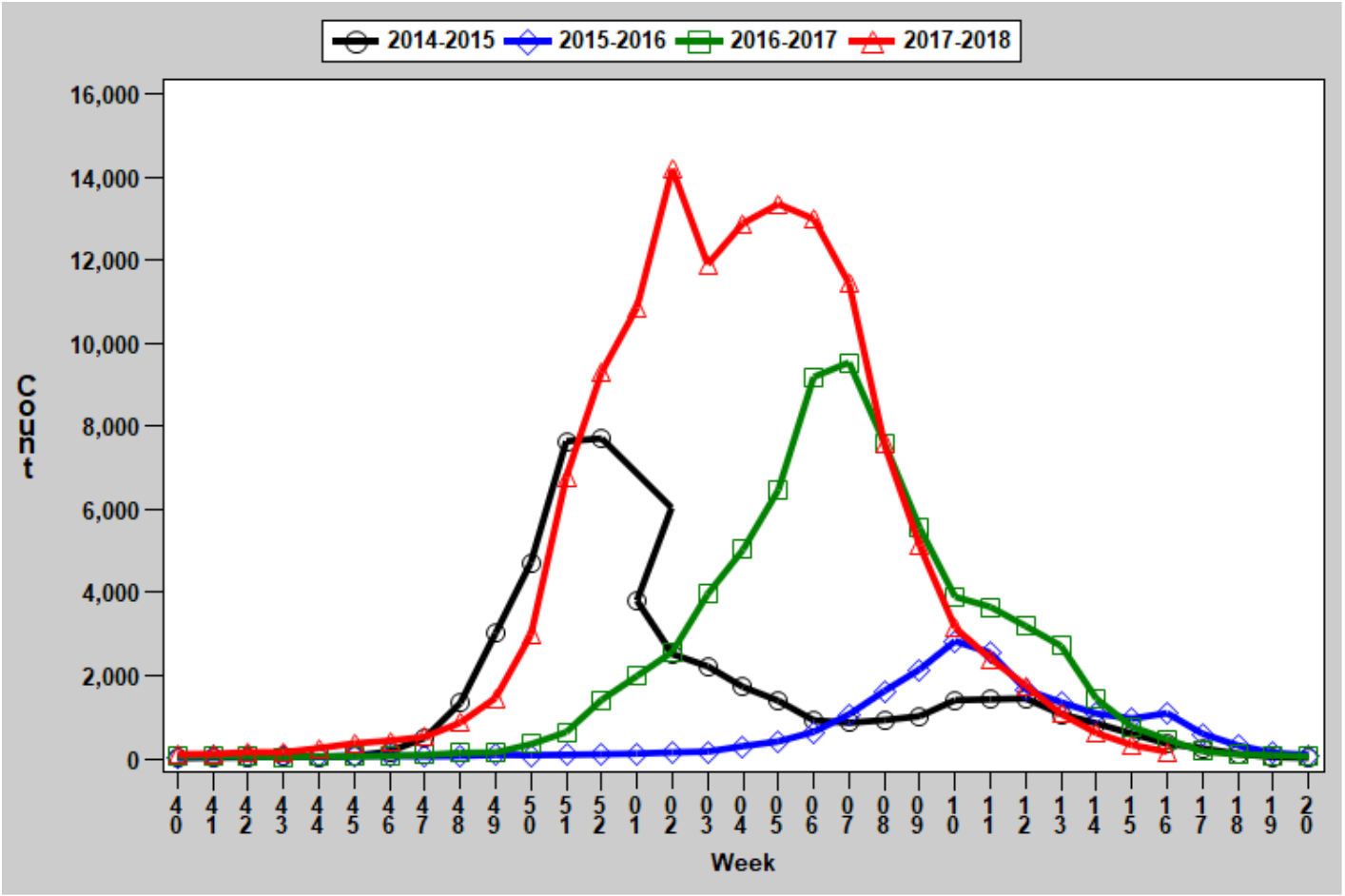
†Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
‡Incidence Rate per 100,000 population

Figure 3. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Region, Missouri, CDC Week 16 (April 15 - 21, 2018)[*‡]

Region	Week 16 Cases	Week 16 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
Central	37	5.47	18,214	2,690.41
Eastern	69	3.04	41,106	1,813.91
Northwest	33	2.07	38,102	2,385.07
Southeast	19	4.03	14,804	3,138.44
Southwest	9	0.84	21,058	1,965.65
Total	167	2.75	133,284	2,190.85

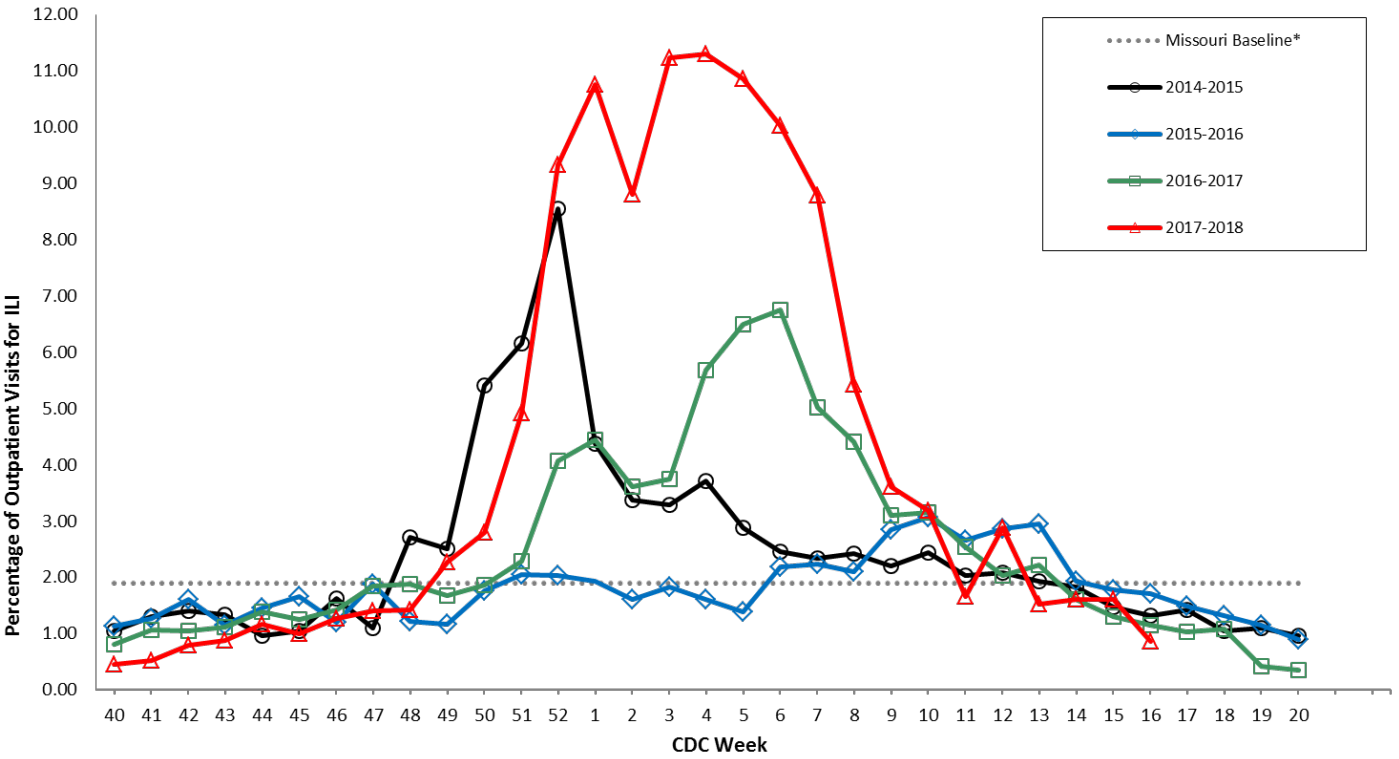
[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 4. Number of Laboratory-positive[†] Influenza Cases by CDC Week, Missouri, 2014-2018[*]



[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. Week 53, 2014-2015 flu season has 3,082 reported confirmed cases. Data Source: Missouri Health Information Surveillance System (WebSurv).

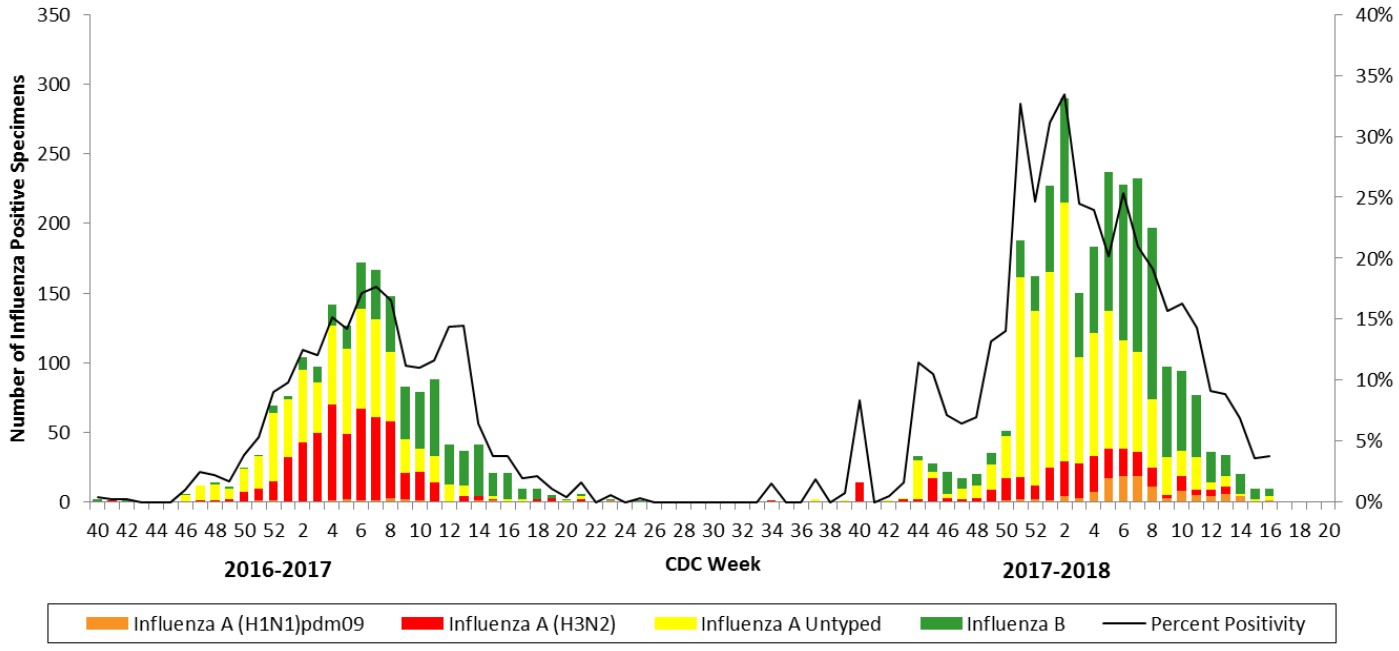
Figure 5. Percentage of Outpatient Visits for Influenza-like Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2014-2018*†



*The ILINet Region 7 (MO, IA, KS, NE) baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons, plus two standard deviations. A non-influenza week is defined as periods of two or more consecutive weeks in which each week accounted for less than 2% of the season's total number of specimens that tested positive for influenza.
Data Source: U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Centers for Disease Control and Prevention (CDC).

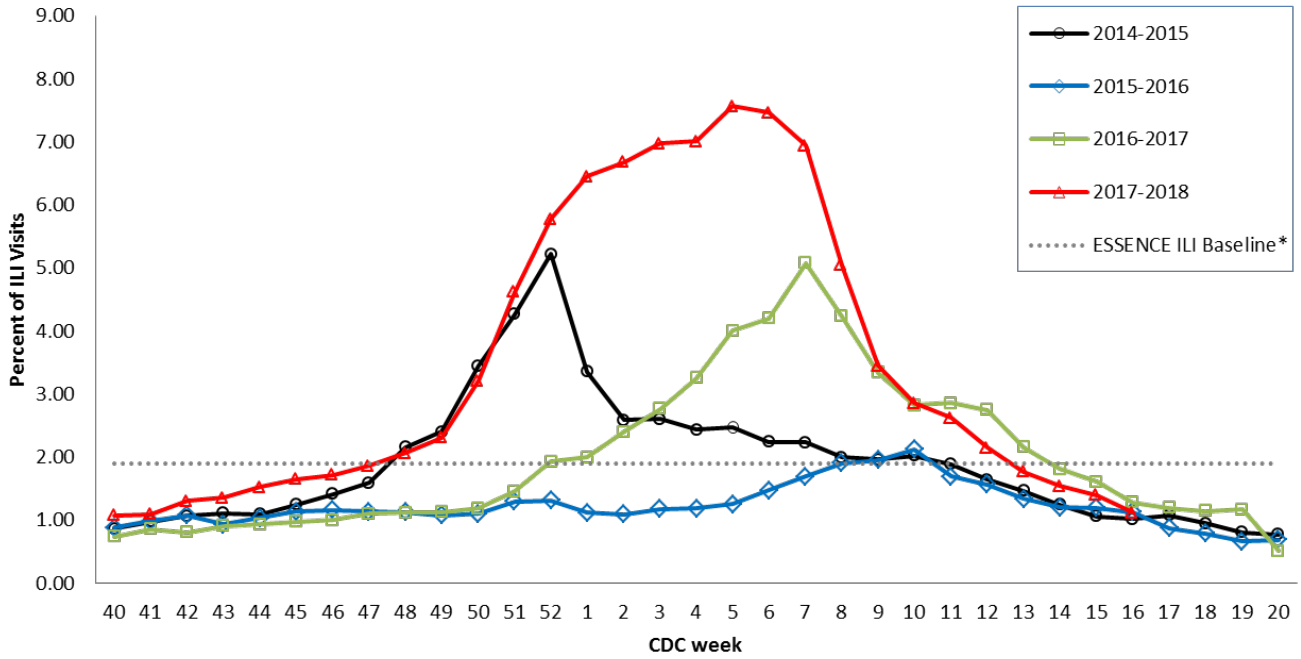
†2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of outpatient visits for ILI during Week 53 was 7.63.

Figure 6. Season-to-Date PCR (+) Tests for Influenza in Missouri



Data Source: National Respiratory and Enteric Virus Surveillance System (NREVSS), Centers for Disease Control and Prevention (CDC).
2016-2017 season-to-date through the week ending May 19, 2018 (Week 20).

Figure 7. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, 2014-2018 Influenza Seasons*†‡



*The ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2014-16) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
†The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of visits for ILI in ESSENCE participating hospitals during Week 53 was 4.38%.
‡The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

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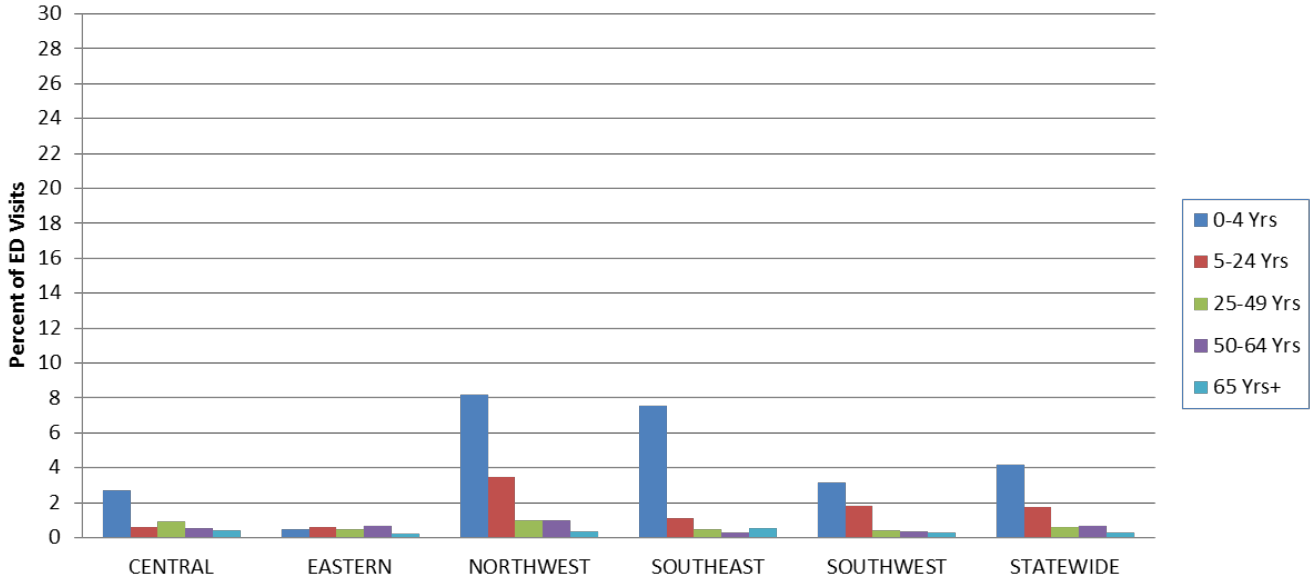
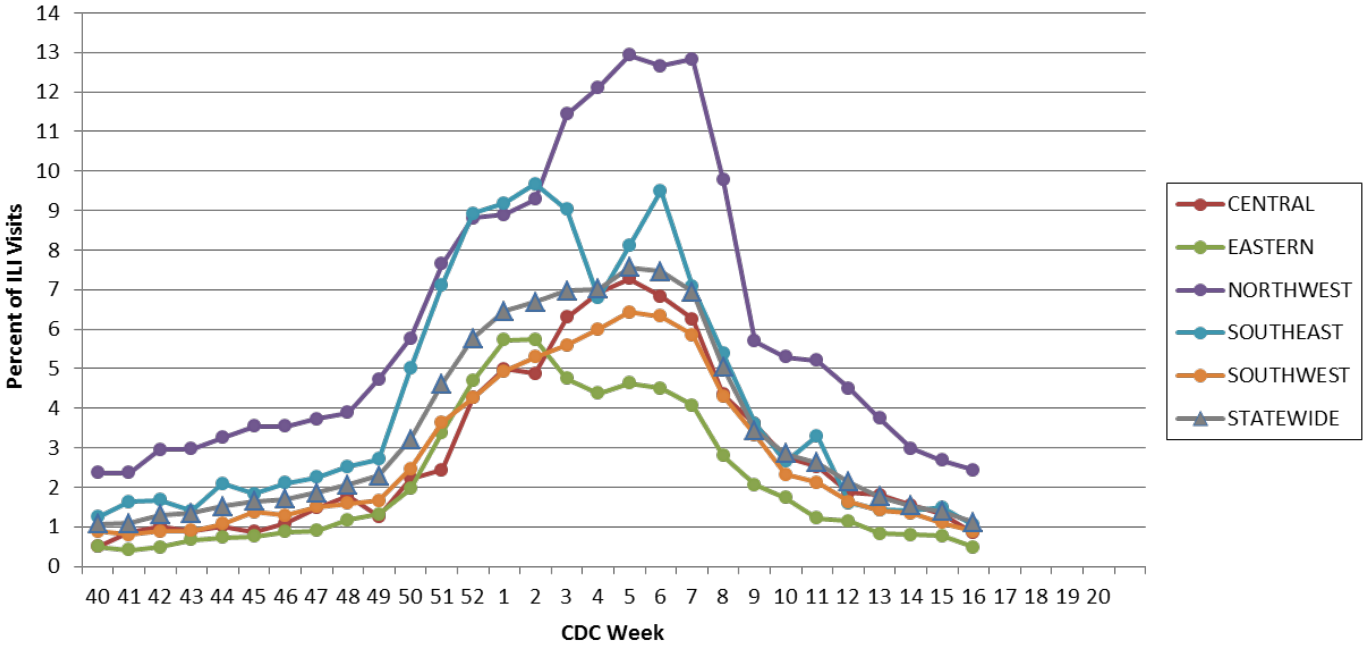


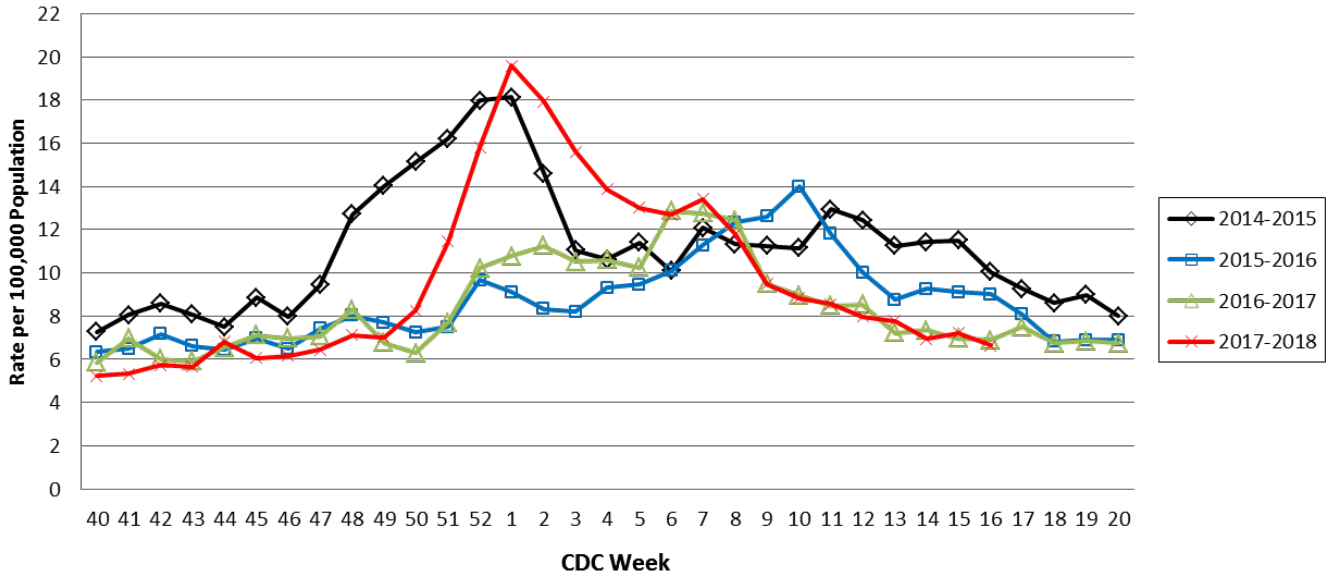
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 9. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Region and Statewide, 2017-2018 Influenza Season*



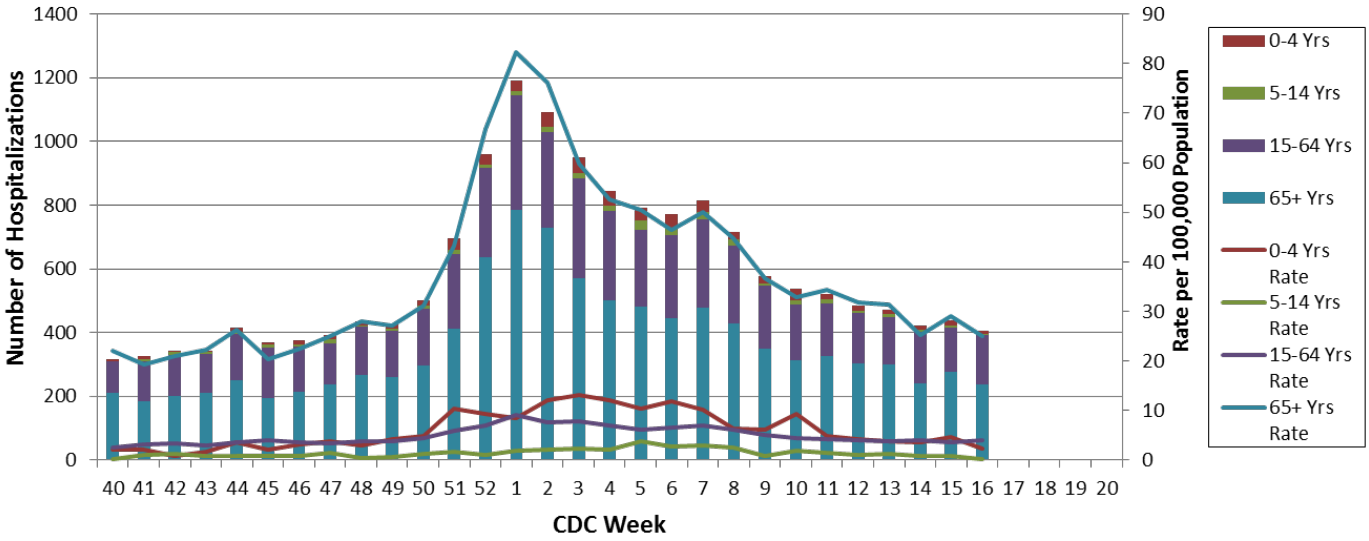
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 10. Weekly Rate of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Missouri Hospitals, 2014-2018 Influenza Seasons



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.
Population data from DHSS Population MICA 2015 (http://health.mo.gov/data/mica/mica/population.php).

Figure 11. Number of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Participating Missouri Hospitals, by Age Group, Week 16, 2017-2018 Influenza Season



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.

Additional Influenza Data Sources:

Centers for Disease Control and Prevention: National Influenza Surveillance (FluView): http://www.cdc.gov/flu/weekly/fluactivitysurv.htm

The National Respiratory and Enteric Virus Surveillance System (NREVSS): https://www.cdc.gov/surveillance/nrevss/

World Health Organization: International Influenza Surveillance: http://www.who.int/influenza/surveillance_monitoring/en/

Missouri Weekly Influenza Surveillance Report
2017-2018 Influenza Season[1]

Week 17: April 22 - 28, 2018

All data are preliminary and may change as more reports are received.

Summary:

- The estimated influenza activity in Missouri decreased to Sporadic[2].

- During Week 17, a total of 124 laboratory-positive[3] influenza cases (41 influenza A, 82 influenza B, and one untyped) were reported. A season-to-date total of 133,549 laboratory-positive influenza cases (85,220 influenza A, 46,431 influenza B, and 1,898 untyped) have been reported in Missouri as of Week 17. The influenza type for reported season-to date cases includes 64% influenza A, 35% influenza B, and 1% untyped. Five laboratory-positive cases of influenza (one influenza A (H1N1), one influenza B (Victoria), and three influenza B (Yamagata)) were reported by the Missouri State Public Health Laboratory (MSPHL) during Week 17.

- Influenza-like illness (ILI) activity was below baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 1.04% (Figure 5) and 1.18% (Figure 7) through ILINet and ESSENCE respectively.[4] The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution. The percentage of respiratory specimens testing positive for influenza in Missouri laboratories reporting to the National Respiratory and Enteric Virus Surveillance System (NREVSS) decreased during Week 17 (Figure 6).

- Two hundred and seventy-seven influenza-associated deaths have been reported in Missouri as of Week 17.[5] During Week 16, 74 deaths involving Pneumonia and Influenza (P&I) were reported to the Bureau of Vital Records, resulting in a season-to-date total of 1,935 P&I associated deaths in Missouri.[6]

- Sixty-nine outbreaks of influenza or ILI have been reported and 15 influenza or ILI-associated school closures have been reported in Missouri as of Week 17.

- Influenza activity decreased in the U.S. during Week 16. National influenza surveillance information is prepared by CDC and is included in the weekly FluView report, which is available online at http://www.cdc.gov/flu/weekly/fluactivitysurv.htm.

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[1]The 2017-2018 influenza season begins CDC Week 40 (week ending October 7, 2017) and ends CDC Week 39 (week ending September 29, 2018).

[2]Sporadic is defined as: Small numbers of laboratory-confirmed influenza cases or a single laboratory-confirmed influenza outbreak has been reported, but there is no increase in cases of ILI.

[3]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

[4]Influenza-like illness (ILI) is defined by ILINet as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza. ILI is defined by ESSENCE as Emergency Department chief complaints for Influenza or (FeverPlus and (Cough or SoreThroat) and not NonILIFevers).

[5]All influenza-associated deaths became reportable in Missouri in 2016.

[6]The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

Surveillance Data:

Interactive Maps

The jurisdiction-specific influenza data are provided though interactive maps available at http://arcg.is/C4Sr1. *Click on the jurisdiction to view the influenza data specific to that jurisdiction.*

- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, CDC Week 17**
- **Reported Week-specific Rate per 100,000 Population, CDC Week 17**
- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, Season-to-Date**
- **Reported Rate per 100,000 Population, Season-to-Date**

Data Figures

Figure 1. Number of Laboratory-positive[†] Influenza Cases by Influenza Type, Missouri, CDC Week 17 (April 22 - 28, 2018)[*]

Influenza Type	Week 15	Week 16	Week 17	2017-2018* Season-to-Date
Influenza A	119	66	41	85,220
Influenza B	249	156	82	46,431
Influenza Unknown Or Untyped	7	3	1	1,898
Total	375	225	124	133,549

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 2. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 17 (April 22 - 28, 2018)[*‡]

Age Group	Week 17 Cases	Week 17 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
00-04	12	3.21	20,525	5,482.69
05-24	28	1.75	47,180	2,940.45
25-49	29	1.52	26,774	1,399.22
50-64	26	2.10	19,215	1,554.14
65+	29	3.04	19,855	2,079.23
Total	124	2.04	133,549	2,195.20

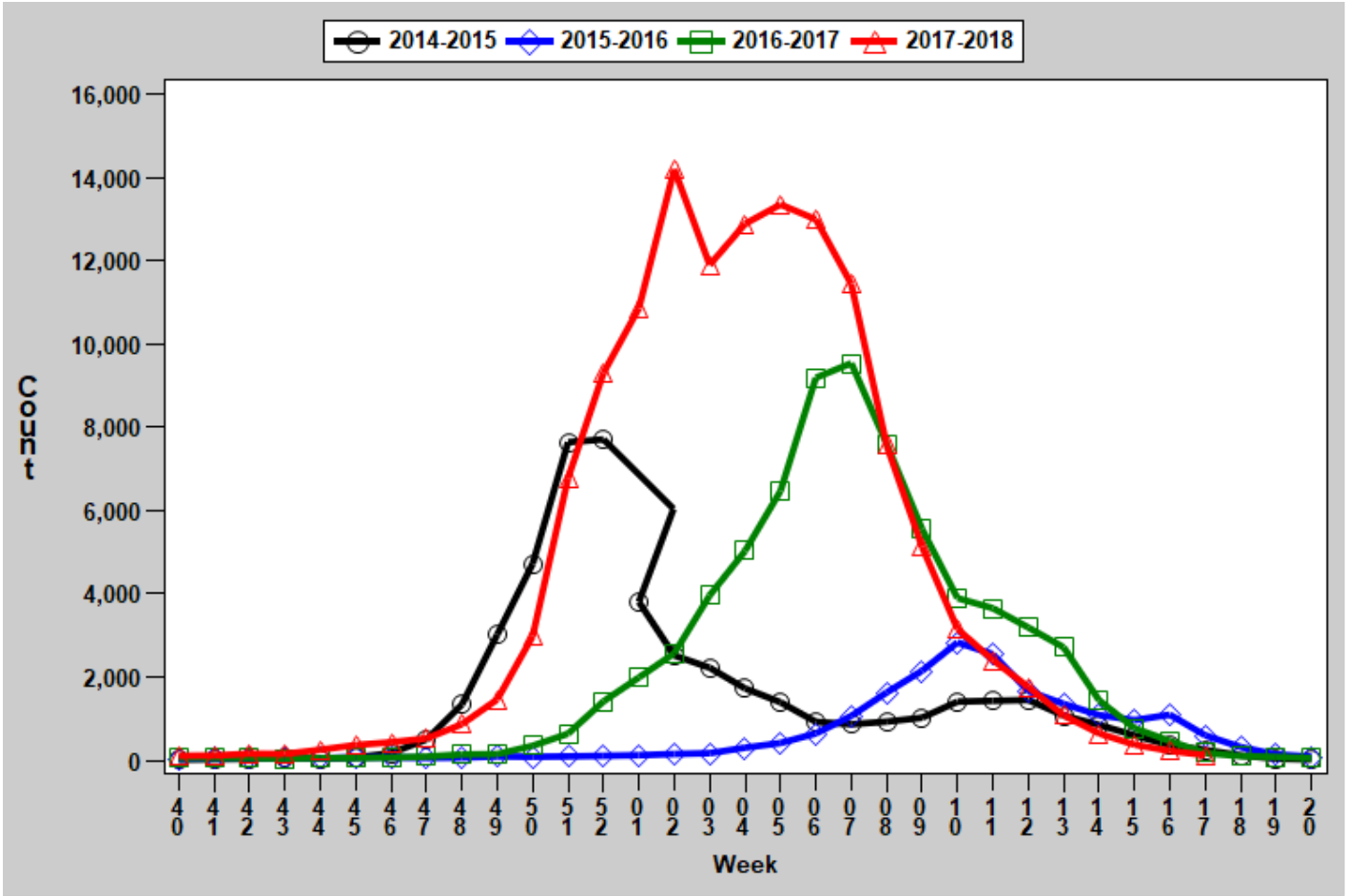
[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 3. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Region, Missouri, CDC Week 17 (April 22 - 28, 2018)[*‡]

Region	Week 17 Cases	Week 17 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
Central	18	2.66	18,264	2,697.79
Eastern	58	2.56	41,185	1,817.40
Northwest	30	1.88	38,178	2,389.83
Southeast	11	2.33	14,848	3,147.77
Southwest	7	0.65	21,074	1,967.14
Total	124	2.04	133,549	2,195.20

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 4. Number of Laboratory-positive[†] Influenza Cases by CDC Week, Missouri, 2014-2018[*]



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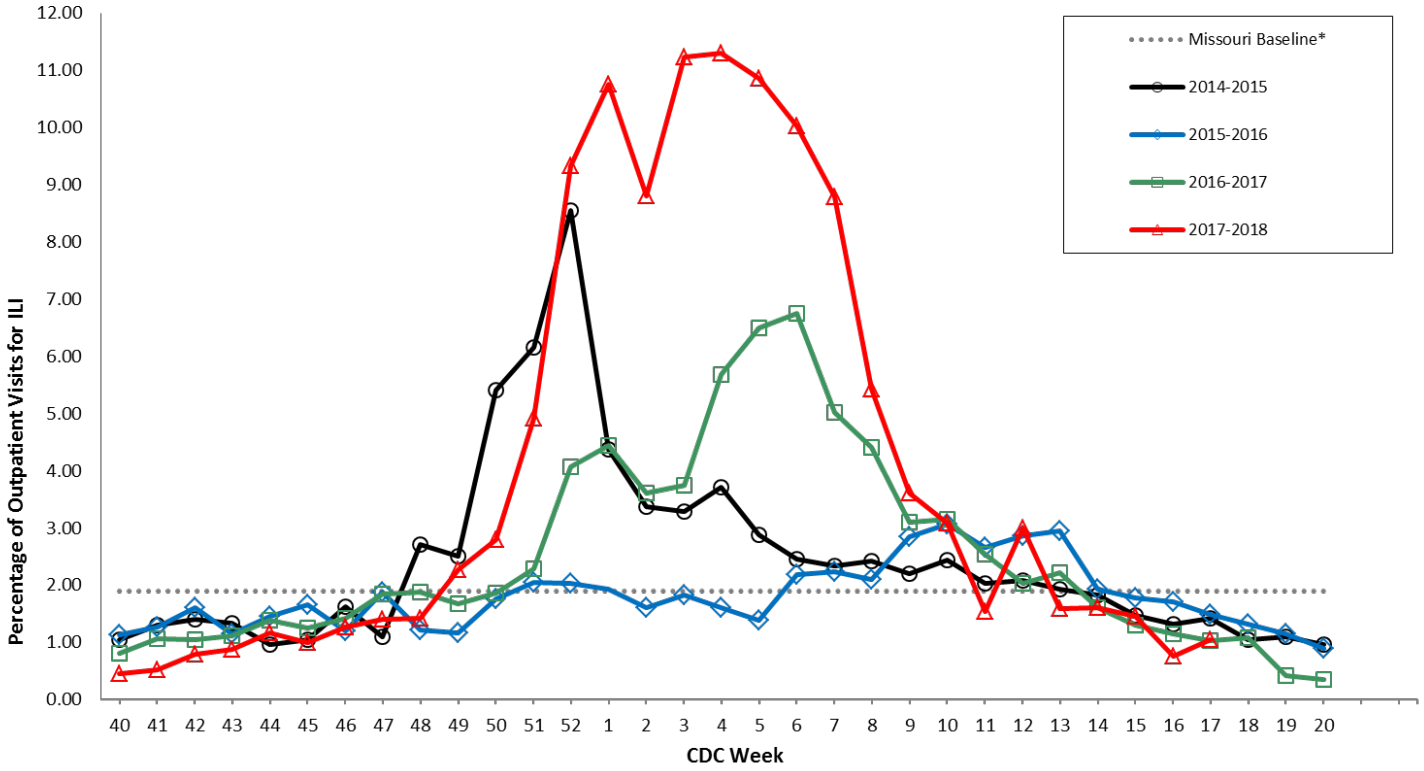
[*]2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. Week 53, 2014-2015 flu season has 3,082 reported confirmed cases. Data Source: Missouri Health Information Surveillance System (WebSurv).

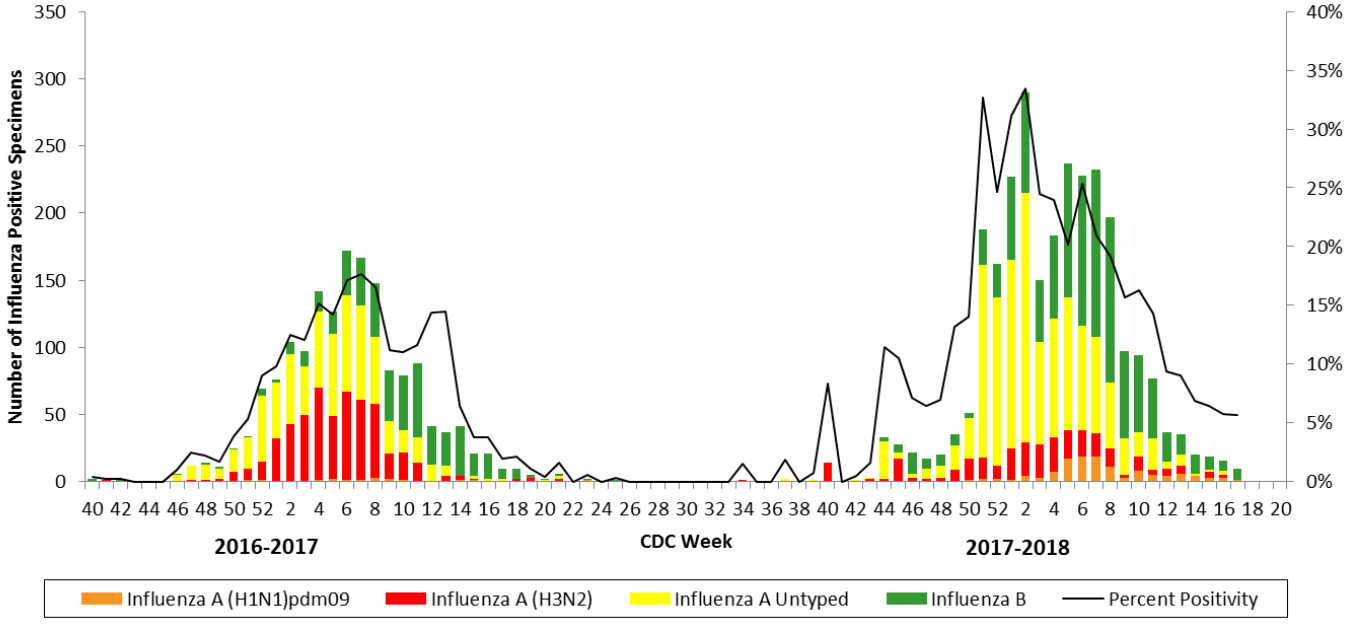
Figure 5. Percentage of Outpatient Visits for Influenza-like Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2014-2018*†



*The ILINet Region 7 (MO, IA, KS, NE) baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons, plus two standard deviations. A non-influenza week is defined as periods of two or more consecutive weeks in which each week accounted for less than 2% of the season's total number of specimens that tested positive for influenza.
Data Source: U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Centers for Disease Control and Prevention (CDC).

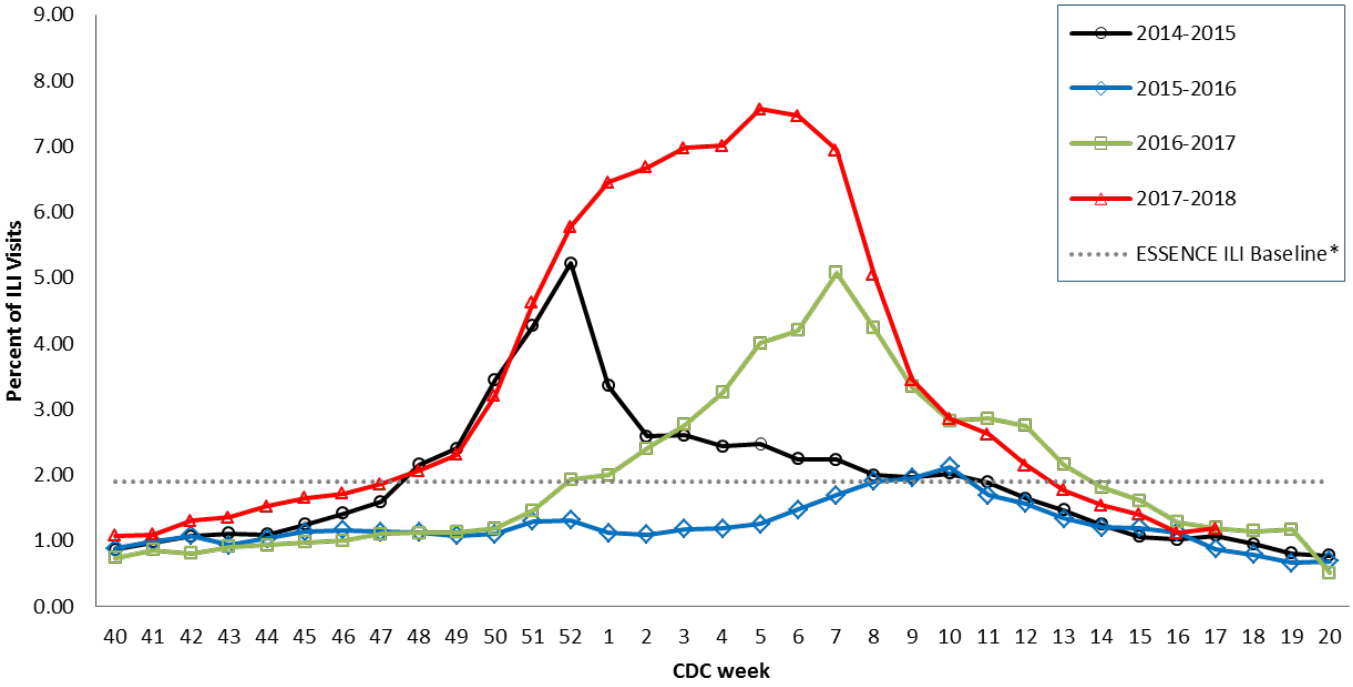
†2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of outpatient visits for ILI during Week 53 was 7.63.

Figure 6. Season-to-Date PCR (+) Tests for Influenza in Missouri



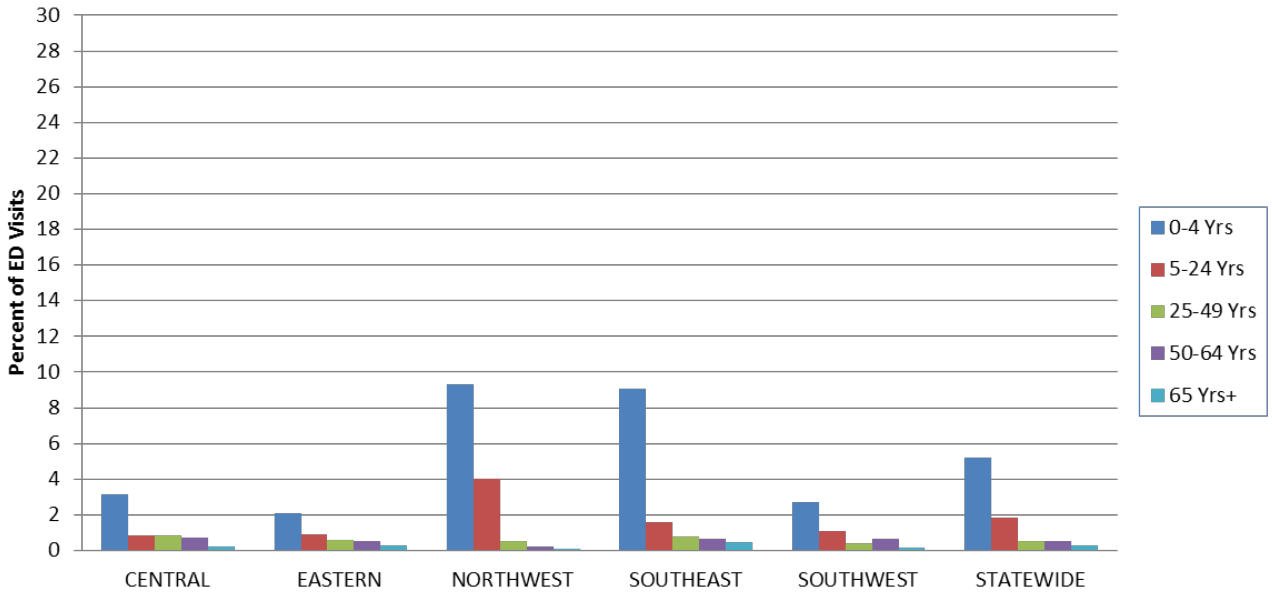
Data Source: National Respiratory and Enteric Virus Surveillance System (NREVSS), Centers for Disease Control and Prevention (CDC).
2016-2017 season-to-date through the week ending May 19, 2018 (Week 20).

Figure 7. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, 2014-2018 Influenza Seasons*†‡



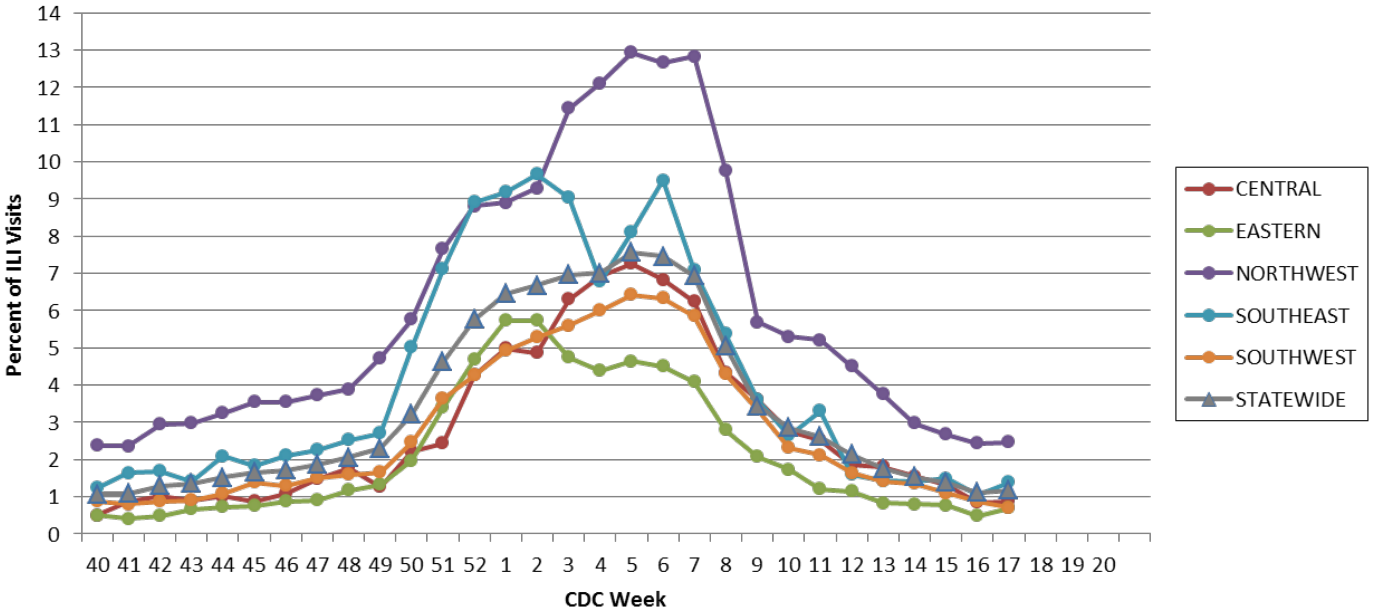
*The ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2014-16) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
†The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of visits for ILI in ESSENCE participating hospitals during Week 53 was 4.38%.
‡The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 8. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Age Group, Region and Statewide, Week 17, 2018*



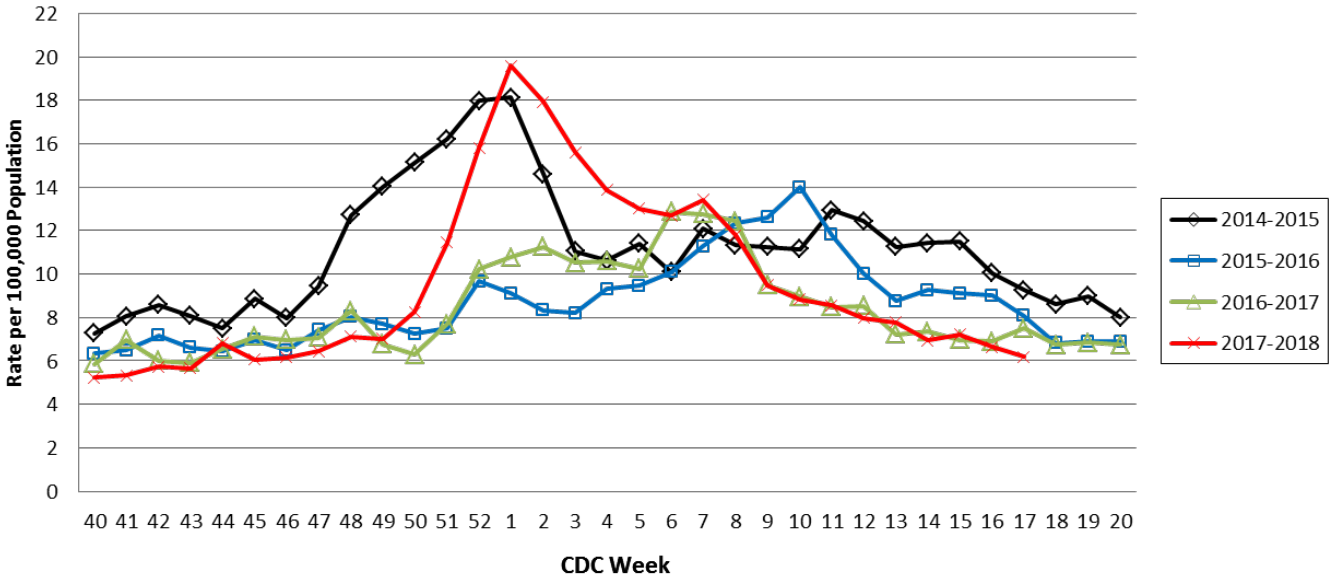
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 9. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Region and Statewide, 2017-2018 Influenza Season*



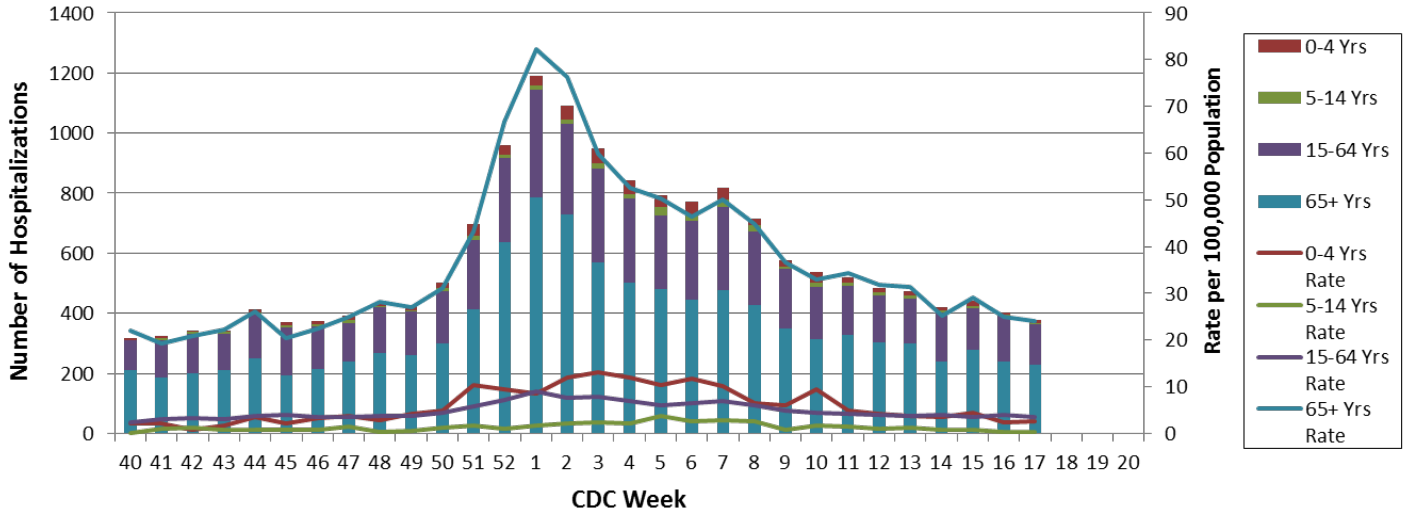
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 10. Weekly Rate of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Missouri Hospitals, 2014-2018 Influenza Seasons



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.
Population data from DHSS Population MICA 2015 (http://health.mo.gov/data/mica/mica/population.php).

Figure 11. Number of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Participating Missouri Hospitals, by Age Group, Week 17, 2017-2018 Influenza Season



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.

Additional Influenza Data Sources:

Centers for Disease Control and Prevention: National Influenza Surveillance (FluView):
http://www.cdc.gov/flu/weekly/fluactivitysurv.htm

The National Respiratory and Enteric Virus Surveillance System (NREVSS):
https://www.cdc.gov/surveillance/nrevss/

World Health Organization: International Influenza Surveillance:
http://www.who.int/influenza/surveillance_monitoring/en/

Missouri Weekly Influenza Surveillance Report
2017-2018 Influenza Season[1]

Week 18: April 29 – May 5, 2018

All data are preliminary and may change as more reports are received.

Summary:

- The estimated influenza activity in Missouri is Sporadic[2].

- During Week 18, a total of 83 laboratory-positive[3] influenza cases (40 influenza A and 43 influenza B) were reported. A season-to-date total of 133,778 laboratory-positive influenza cases (85,317 influenza A, 46,561 influenza B, and 1,900 untyped) have been reported in Missouri as of Week 18. The influenza type for reported season-to date cases includes 64% influenza A, 35% influenza B, and 1% untyped. One laboratory-positive case of influenza B (Yamagata) was reported by the Missouri State Public Health Laboratory (MSPHL) during Week 18.

- Influenza-like illness (ILI) activity was below baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 0.24% (Figure 5) and 1.01% (Figure 7) through ILINet and ESSENCE respectively.[4] The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution. The percentage of respiratory specimens testing positive for influenza in Missouri laboratories reporting to the National Respiratory and Enteric Virus Surveillance System (NREVSS) increased slightly during Week 18 (Figure 6).

- Two hundred and seventy-seven influenza-associated deaths have been reported in Missouri as of Week 18.[5] During Week 17, 52 deaths involving Pneumonia and Influenza (P&I) were reported to the Bureau of Vital Records, resulting in a season-to-date total of 1,987 P&I associated deaths in Missouri.[6]

- Sixty-nine outbreaks of influenza or ILI have been reported and 15 influenza or ILI-associated school closures have been reported in Missouri as of Week 18.

- Influenza activity decreased in the U.S. during Week 17. National influenza surveillance information is prepared by CDC and is included in the weekly FluView report, which is available online at http://www.cdc.gov/flu/weekly/fluactivitysurv.htm.

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[1]The 2017-2018 influenza season begins CDC Week 40 (week ending October 7, 2017) and ends CDC Week 39 (week ending September 29, 2018).

[2]Sporadic is defined as: Small numbers of laboratory-confirmed influenza cases or a single laboratory-confirmed influenza outbreak has been reported, but there is no increase in cases of ILI.

[3]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

[4]Influenza-like illness (ILI) is defined by ILINet as fever (temperature of 100ºF [37.8ºC] or greater) and a cough and/or a sore throat without a known cause other than influenza. ILI is defined by ESSENCE as Emergency Department chief complaints for Influenza or (FeverPlus and (Cough or SoreThroat) and not NonILIFevers).

[5]All influenza-associated deaths became reportable in Missouri in 2016.

[6]The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

Surveillance Data:

Interactive Maps

The jurisdiction-specific influenza data are provided though interactive maps available at http://arcg.is/1LSuC1. *Click on the jurisdiction to view the influenza data specific to that jurisdiction.*

- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, CDC Week 18**
- **Reported Week-specific Rate per 100,000 Population, CDC Week 18**
- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, Season-to-Date**
- **Reported Rate per 100,000 Population, Season-to-Date**

Data Figures

Figure 1. Number of Laboratory-positive[†] Influenza Cases by Influenza Type, Missouri, CDC Week 18 (April 29 – May 5, 2018)[*]

Influenza Type	Week 16	Week 17	Week 18	2017-2018[*] Season-to-Date
Influenza A	79	50	40	85,317
Influenza B	179	100	43	46,561
Influenza Unknown Or Untyped	3	1	0	1,900
Total	261	151	83	133,778

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 2. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 18 (April 29 – May 5, 2018)[*‡]

Age Group	Week 18 Cases	Week 18 Rate[‡]	2017-2018[*] Season-to-Date	2017-2018[*] Season-to-Date Rate[‡]
00-04	7	1.87	20,556	5,490.97
05-24	28	1.75	47,245	2,944.50
25-49	22	1.15	26,835	1,402.40
50-64	17	1.37	19,259	1,557.70
65+	9	0.94	19,883	2,082.16
Total	83	1.36	133,778	2,198.97

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
[‡]Incidence Rate per 100,000 population

Figure 3. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Region, Missouri, CDC Week 18 (April 29 – May 5, 2018)[*‡]

Region	Week 18 Cases	Week 18 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
Central	4	0.59	18,278	2,699.86
Eastern	28	1.24	41,217	1,818.81
Northwest	21	1.31	38,311	2,398.15
Southeast	4	0.85	14,863	3,150.95
Southwest	26	2.43	21,109	1,970.41
Total	83	1.36	133,778	2,198.97

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
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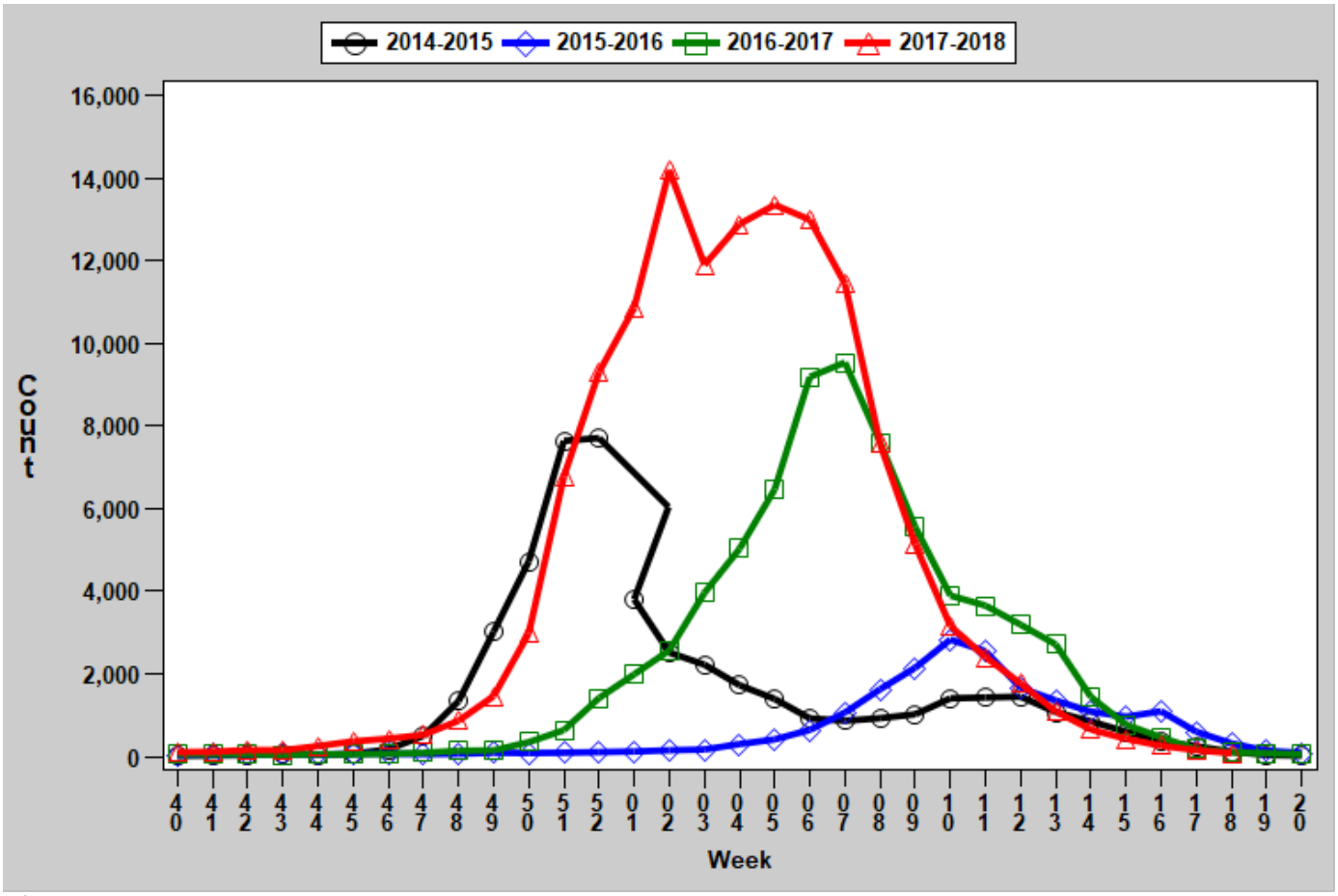
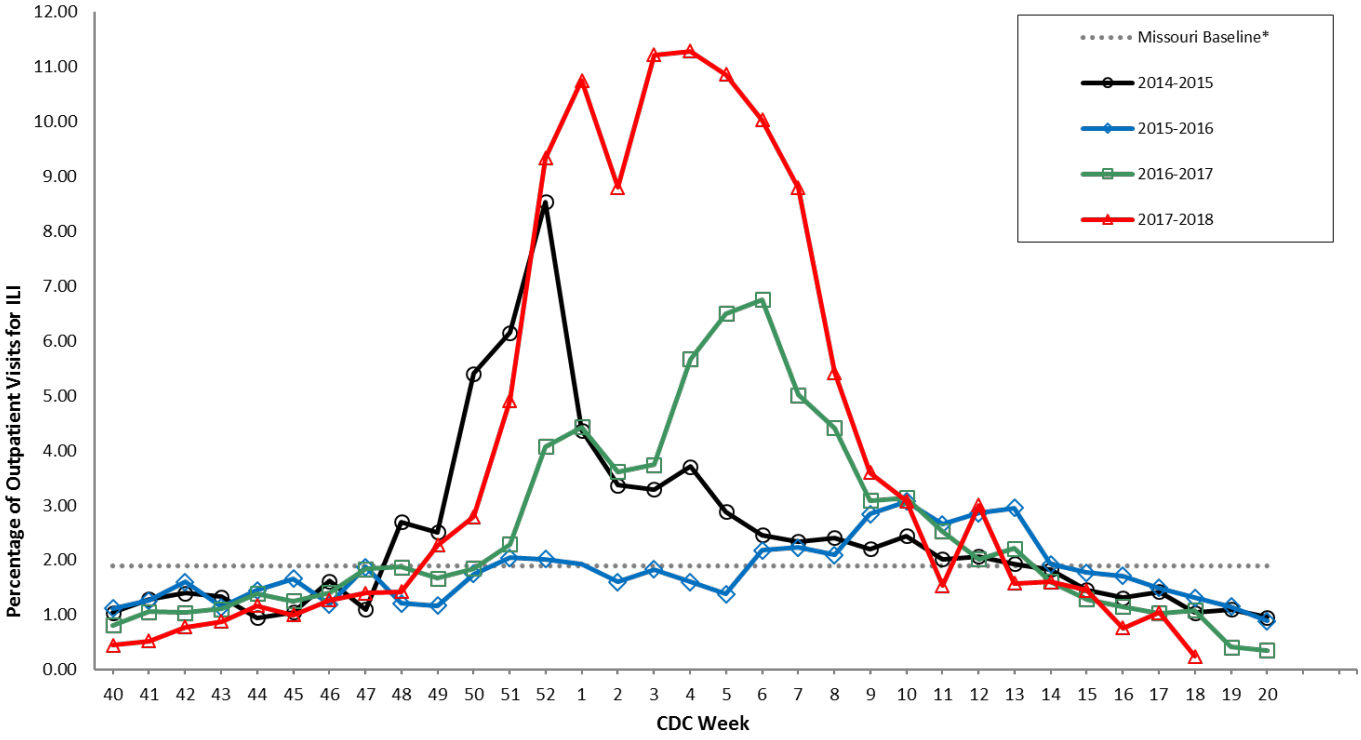
Figure 4. Number of Laboratory-positive[†] Influenza Cases by CDC Week, Missouri, 2014-2018[*]



[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
[*]2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. Week 53, 2014-2015 flu season has 3,082 reported confirmed cases. Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 5. Percentage of Outpatient Visits for Influenza-like Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2014-2018*†



*The ILINet Region 7 (MO, IA, KS, NE) baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons, plus two standard deviations. A non-influenza week is defined as periods of two or more consecutive weeks in which each week accounted for less than 2% of the season's total number of specimens that tested positive for influenza.
Data Source: U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Centers for Disease Control and Prevention (CDC).

†2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of outpatient visits for ILI during Week 53 was 7.63.

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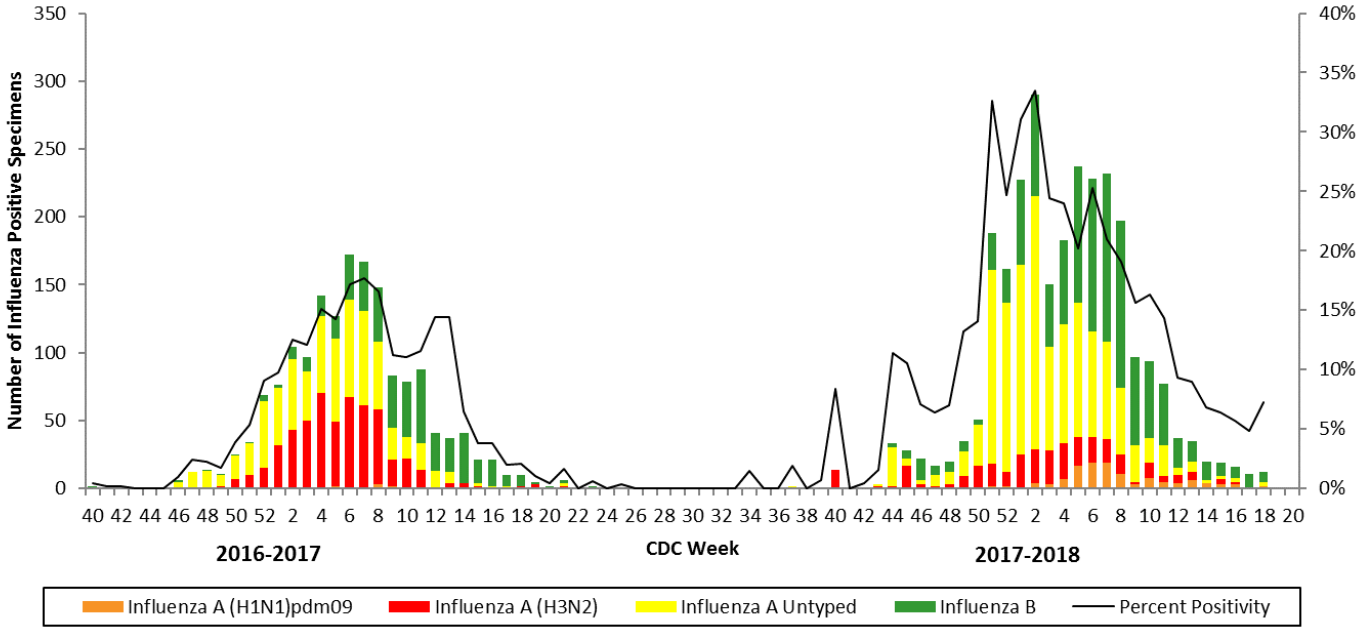
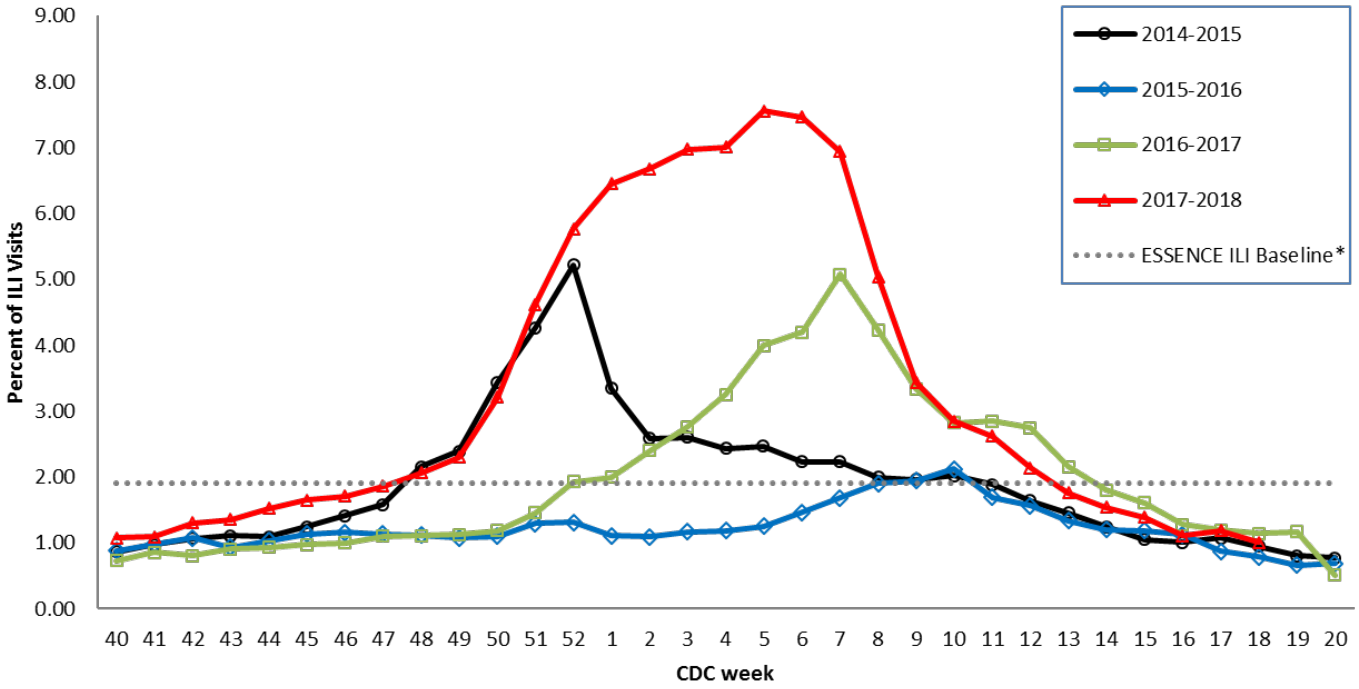


Data Source: National Respiratory and Enteric Virus Surveillance System (NREVSS), Centers for Disease Control and Prevention (CDC).
2016-2017 season-to-date through the week ending May 19, 2018 (Week 20).

Figure 7. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, 2014-2018 Influenza Seasons*†‡



*The ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2014-16) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
†The 2014-2015 season had 53 weeks rather than the usual 52. The percentage of visits for ILI in ESSENCE participating hospitals during Week 53 was 4.38%.
‡The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

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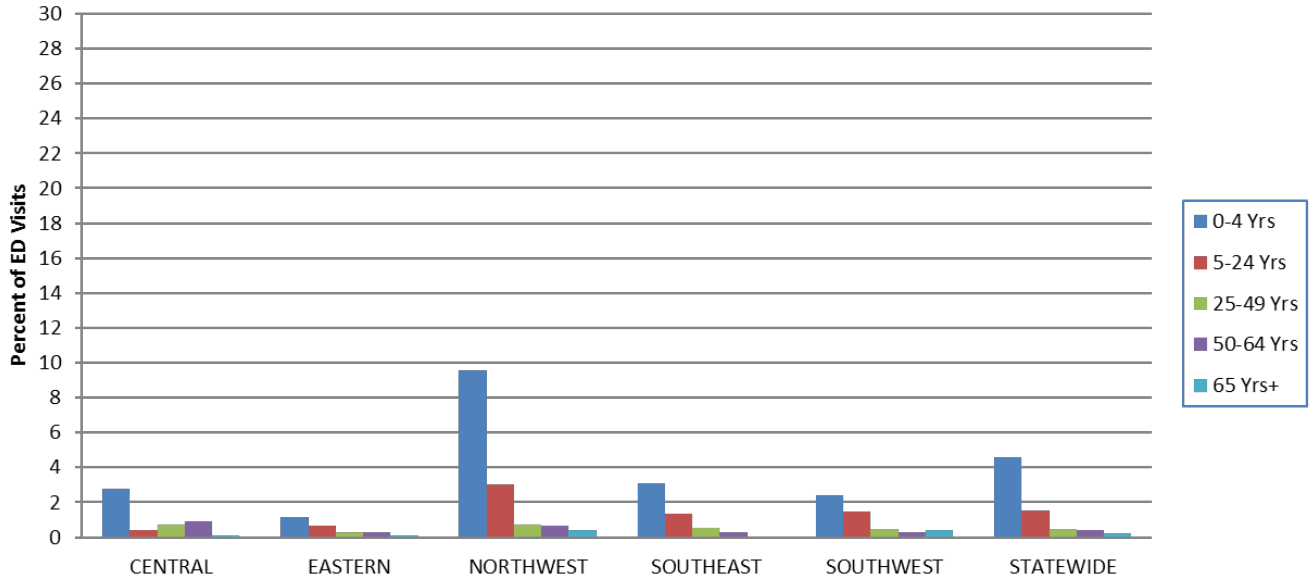

Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
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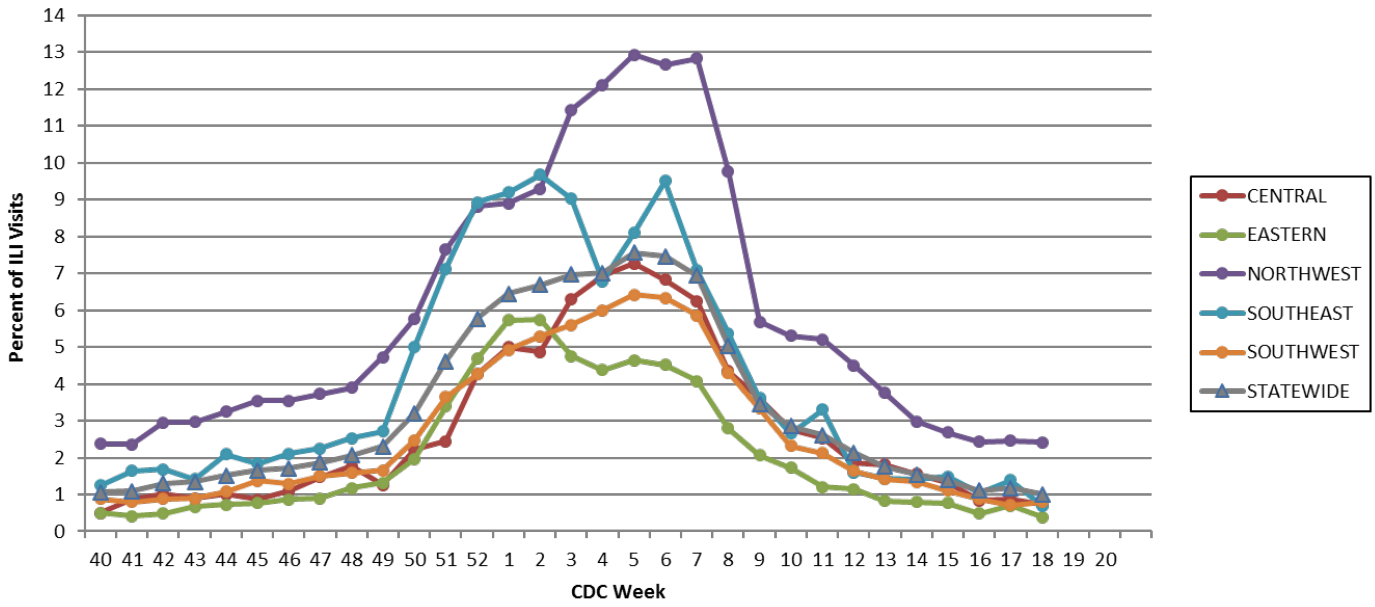
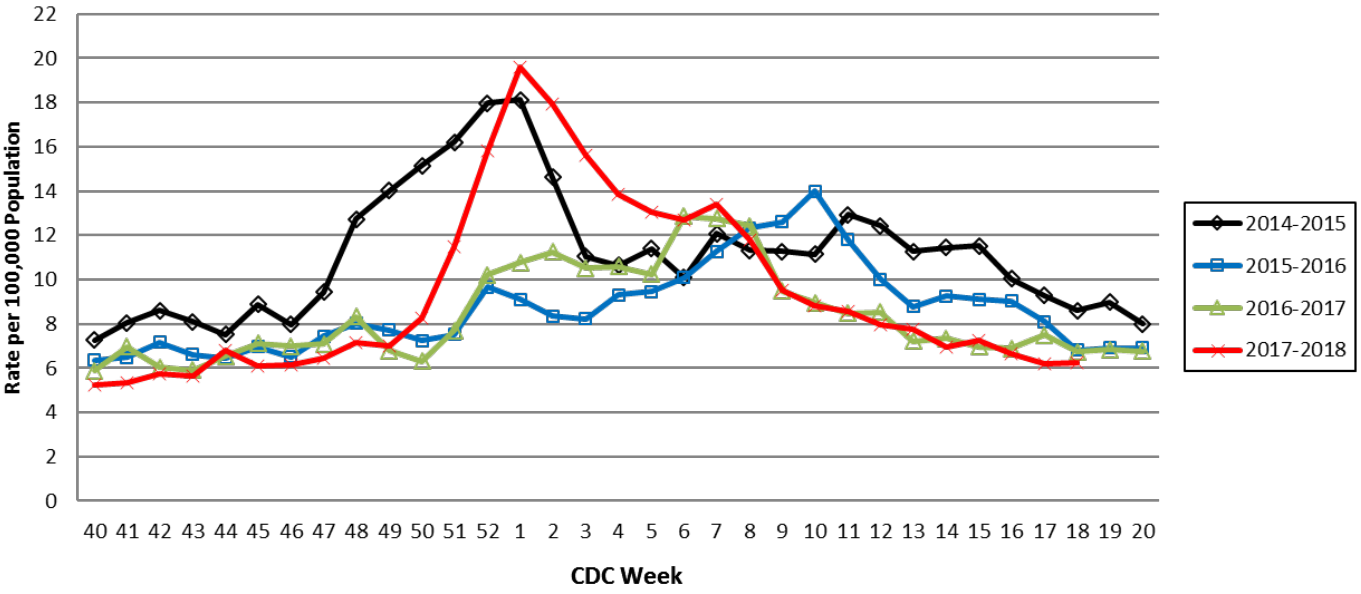


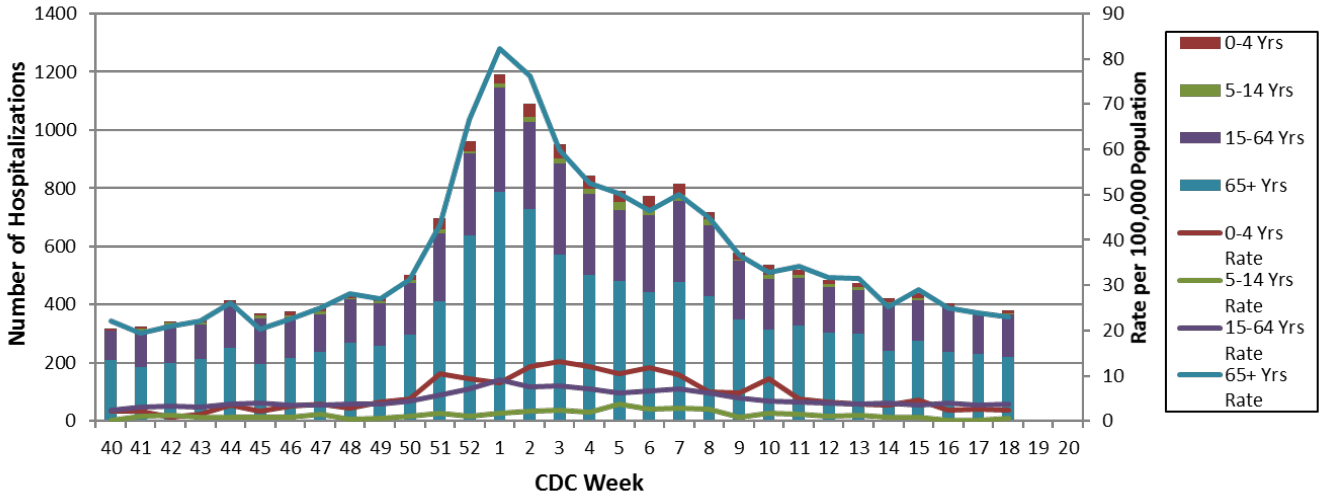
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
*The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 10. Weekly Rate of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Missouri Hospitals, 2014-2018 Influenza Seasons



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.
Population data from DHSS Population MICA 2015 (http://health.mo.gov/data/mica/mica/population.php).

Figure 11. Number of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Participating Missouri Hospitals, by Age Group, Week 18, 2017-2018 Influenza Season



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.

Additional Influenza Data Sources:

Centers for Disease Control and Prevention: National Influenza Surveillance (FluView):
http://www.cdc.gov/flu/weekly/fluactivitysurv.htm

The National Respiratory and Enteric Virus Surveillance System (NREVSS):
https://www.cdc.gov/surveillance/nrevss/

World Health Organization: International Influenza Surveillance:
http://www.who.int/influenza/surveillance_monitoring/en/

Missouri Weekly Influenza Surveillance Report
2017-2018 Influenza Season[1]

Week 19: May 6 – 12, 2018

All data are preliminary and may change as more reports are received.

Summary:

- The estimated influenza activity in Missouri is Sporadic[2].

- During Week 19, a total of 39 laboratory-positive[3] influenza cases (10 influenza A and 29 influenza B) were reported. A season-to-date total of 133,837 laboratory-positive influenza cases (85,335 influenza A, 46,601 influenza B, and 1,901 untyped) have been reported in Missouri as of Week 19. The influenza type for reported season-to-date cases includes 64% influenza A, 35% influenza B, and 1% untyped. Two laboratory-positive cases of influenza B (Yamagata) were reported by the Missouri State Public Health Laboratory (MSPHL) during Week 19.

- Influenza-like illness (ILI) activity was below baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 0.46% (Figure 5) and 0.94% (Figure 7) through ILINet and ESSENCE respectively.[4] The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution. The percentage of respiratory specimens testing positive for influenza in Missouri laboratories reporting to the National Respiratory and Enteric Virus Surveillance System (NREVSS) decreased during Week 19 (Figure 6).

- Two hundred and seventy-seven influenza-associated deaths have been reported in Missouri as of Week 19.[5] During Week 18, 47 deaths involving Pneumonia and Influenza (P&I) were reported to the Bureau of Vital Records, resulting in a season-to-date total of 2,034 P&I associated deaths in Missouri.[6]

- Seventy outbreaks of influenza or ILI have been reported and 15 influenza or ILI-associated school closures have been reported in Missouri as of Week 19.

- Influenza activity decreased in the U.S. during Week 18. National influenza surveillance information is prepared by CDC and is included in the weekly FluView report, which is available online at http://www.cdc.gov/flu/weekly/fluactivitysurv.htm.

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[1]The 2017-2018 influenza season begins CDC Week 40 (week ending October 7, 2017) and ends CDC Week 39 (week ending September 29, 2018).

[2]Sporadic is defined as: Small numbers of laboratory-confirmed influenza cases or a single laboratory-confirmed influenza outbreak has been reported, but there is no increase in cases of ILI.

[3]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

[4]Influenza-like illness (ILI) is defined by ILINet as fever (temperature of 100ºF [37.8ºC] or greater) and a cough and/or a sore throat without a known cause other than influenza. ILI is defined by ESSENCE as Emergency Department chief complaints for Influenza or (FeverPlus and (Cough or SoreThroat) and not NonILIFevers).

[5]All influenza-associated deaths became reportable in Missouri in 2016.

[6]The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

Surveillance Data:

Interactive Maps

The jurisdiction-specific influenza data are provided though interactive maps available at http://arcg.is/1DeGGG. *Click on the jurisdiction to view the influenza data specific to that jurisdiction.*

- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, CDC Week 19**
- **Reported Week-specific Rate per 100,000 Population, CDC Week 19**
- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, Season-to-Date**
- **Reported Rate per 100,000 Population, Season-to-Date**

Data Figures

Figure 1. Number of Laboratory-positive† Influenza Cases by Influenza Type, Missouri, CDC Week 19 (May 6 – 12, 2018)*

Influenza Type	Week 17	Week 18	Week 19	2017-2018* Season-to-Date
Influenza A	54	42	10	85,335
Influenza B	103	46	29	46,601
Influenza Unknown Or Untyped	1	0	0	1,901
Total	158	88	39	133,837

†Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 2. Number of Laboratory-positive† Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 19 (May 6 – 12, 2018)*‡

Age Group	Week 19 Cases	Week 19 Rate‡	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate‡
00-04	4	1.07	20,563	5,492.84
05-24	5	0.31	47,259	2,945.38
25-49	13	0.68	26,849	1,403.14
50-64	6	0.49	19,270	1,558.59
65+	11	1.15	19,896	2,083.52
Total	39	0.64	133,837	2,199.94

†Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
‡Incidence Rate per 100,000 population

Figure 3. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Region, Missouri, CDC Week 19 (May 6 – 12, 2018)[*‡]

Region	Week 19 Cases	Week 19 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
Central	10	1.48	18,300	2,703.11
Eastern	18	0.79	41,235	1,819.60
Northwest	0	0.00	38,316	2,398.47
Southeast	4	0.85	14,867	3,151.80
Southwest	7	0.65	21,119	1,971.34
Total	39	0.64	133,837	2,199.94

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
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[‡]Incidence Rate per 100,000 population

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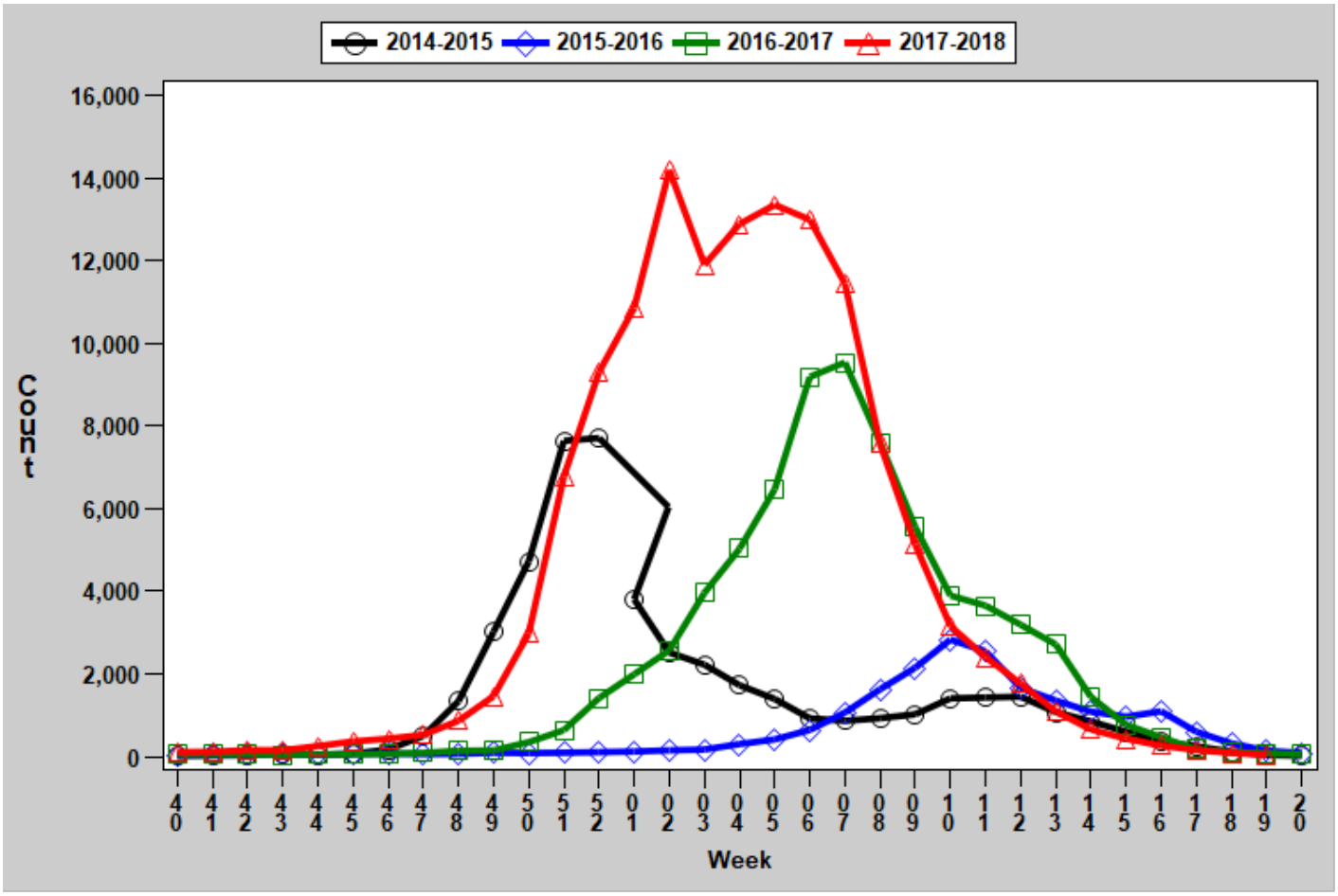

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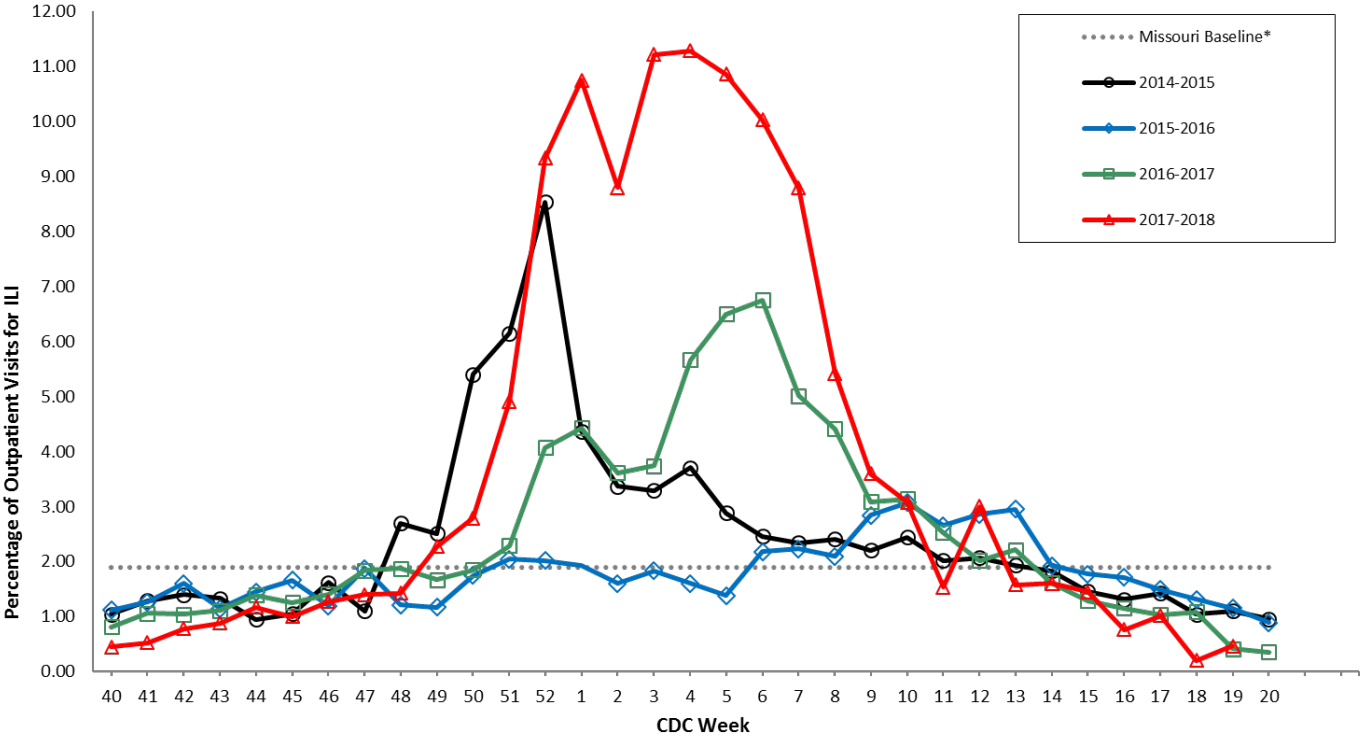
[*]2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. Week 53, 2014-2015 flu season has 3,082 reported confirmed cases. Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 5. Percentage of Outpatient Visits for Influenza-like Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2014-2018*†



*The ILINet Region 7 (MO, IA, KS, NE) baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons, plus two standard deviations. A non-influenza week is defined as periods of two or more consecutive weeks in which each week accounted for less than 2% of the season's total number of specimens that tested positive for influenza.
Data Source: U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Centers for Disease Control and Prevention (CDC).

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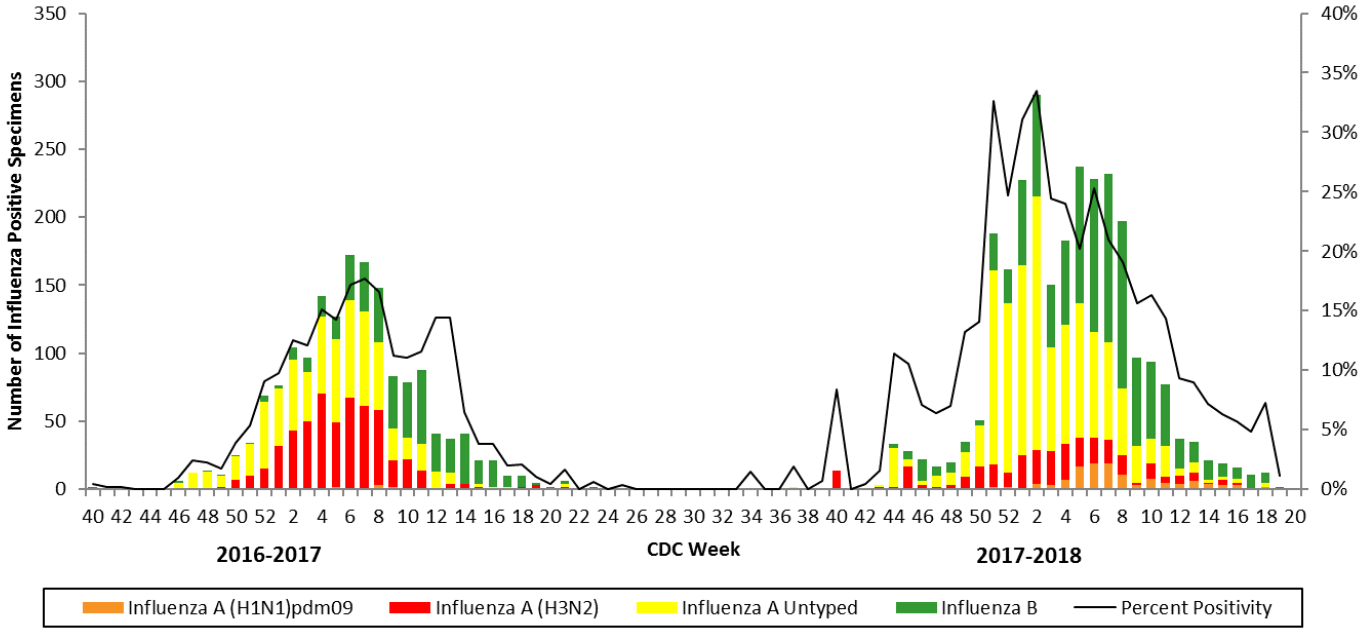
Figure 6. Season-to-Date PCR (+) Tests for Influenza in Missouri



Data Source: National Respiratory and Enteric Virus Surveillance System (NREVSS), Centers for Disease Control and Prevention (CDC).
2016-2017 season-to-date through the week ending May 19, 2018 (Week 20).

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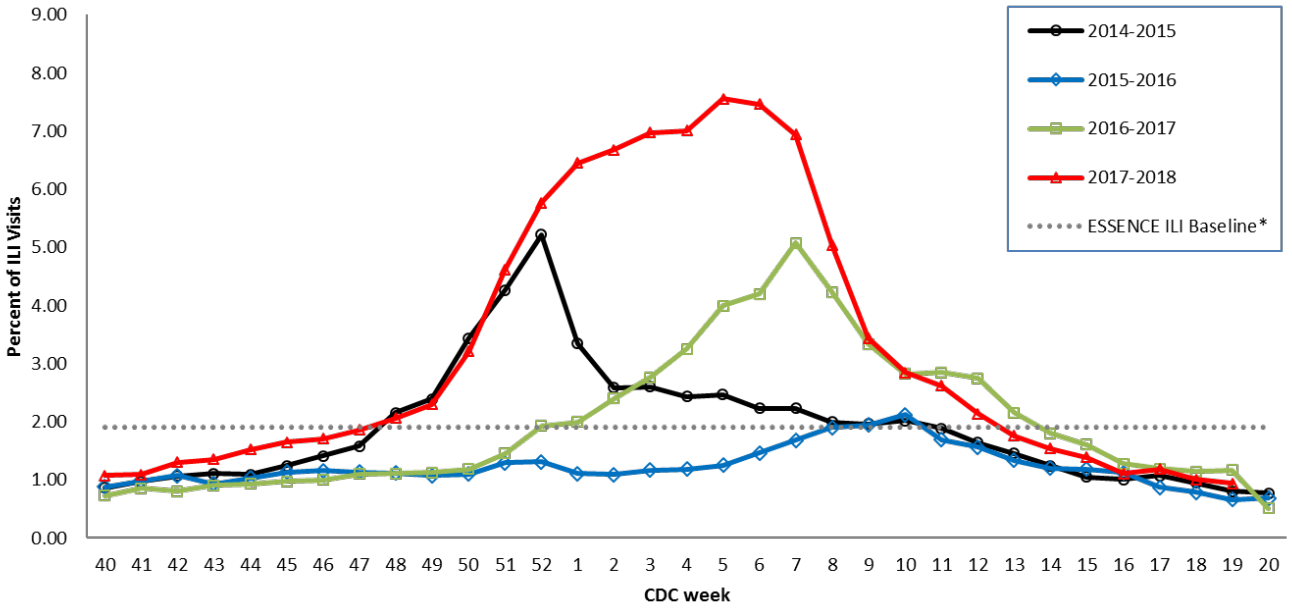

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Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
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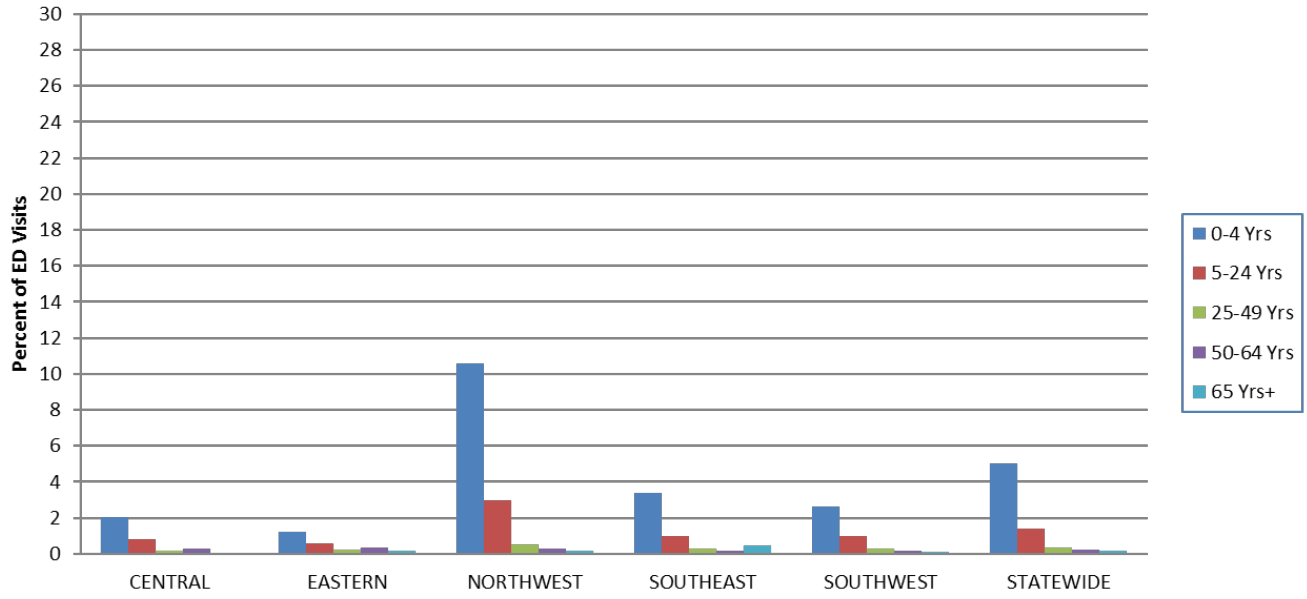
‡The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution.

Figure 8. Percentage of Emergency Department (ED) Visits for Influenza-like Illness (ILI) in ESSENCE Participating Hospitals, by Age Group, Region and Statewide, Week 19, 2018*



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE version 1.20.
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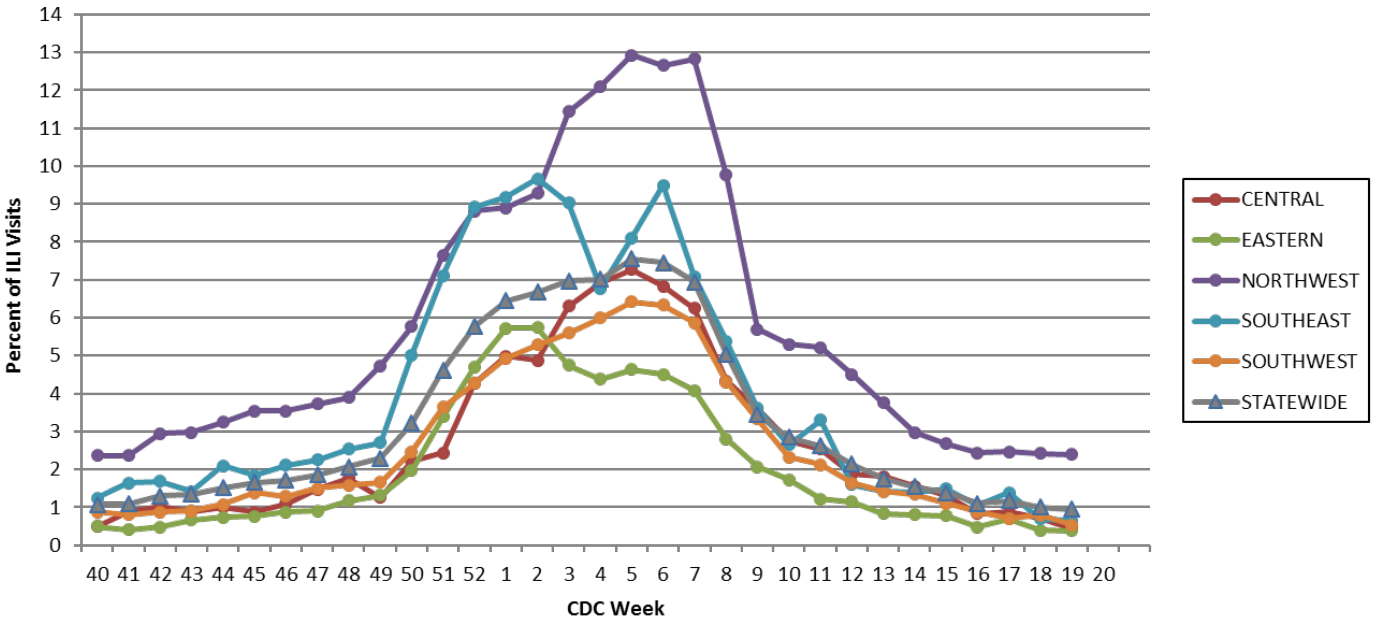

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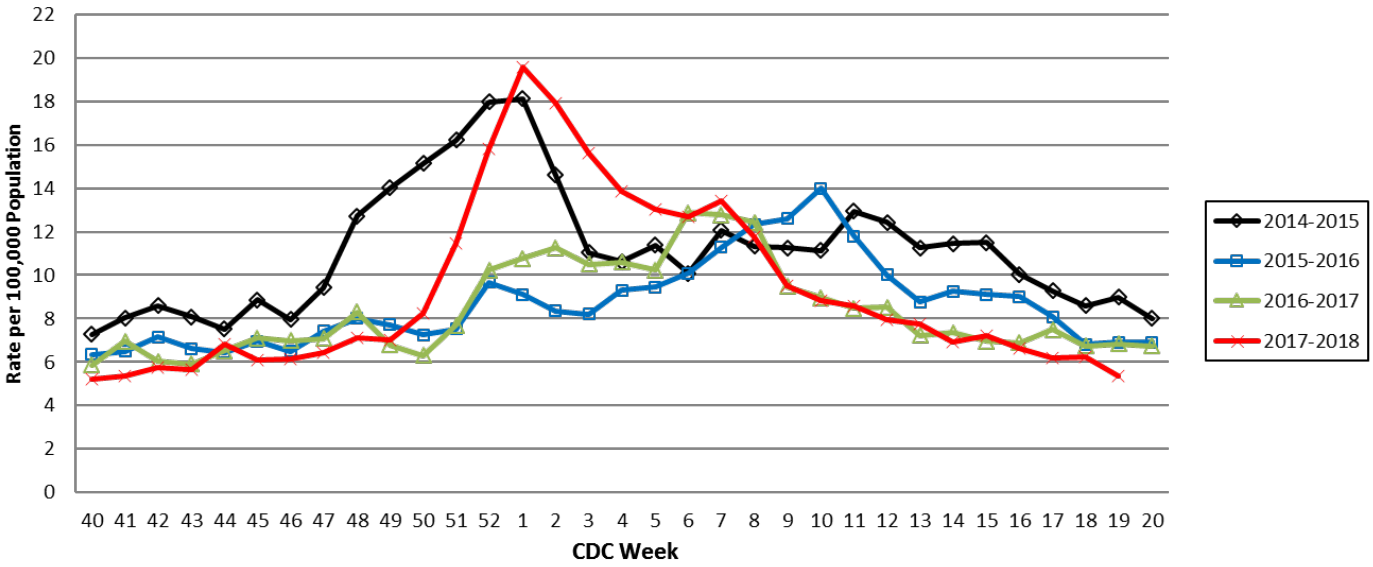
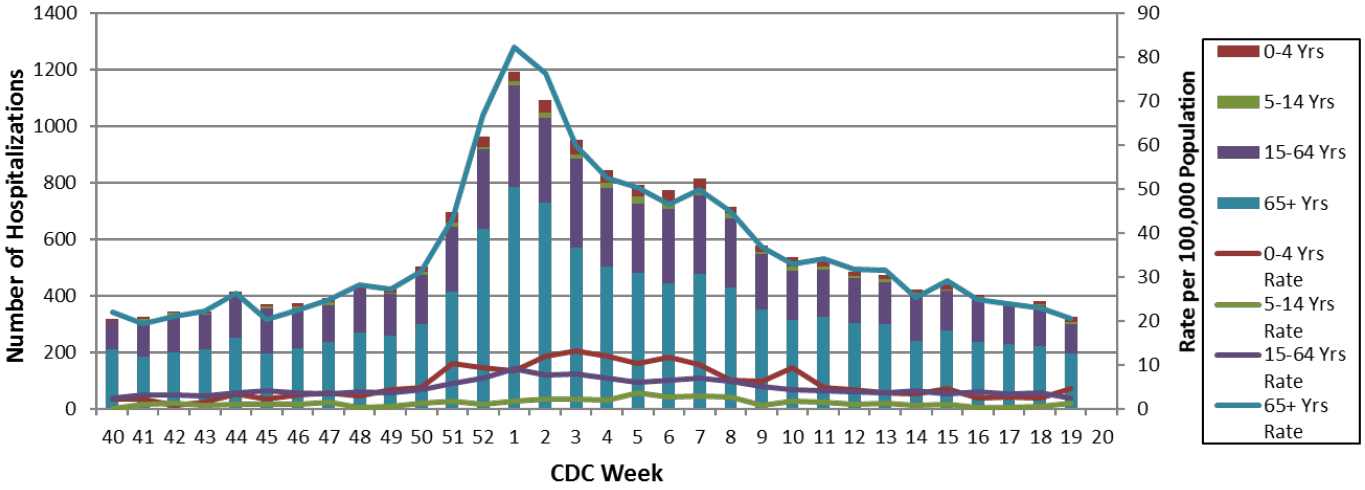


Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.
Population data from DHSS Population MICA 2015 (http://health.mo.gov/data/mica/mica/population.php).

Figure 11. Number of Patients Hospitalized with Influenza and/or Pneumonia Syndromes in Participating Missouri Hospitals, by Age Group, Week 19, 2017-2018 Influenza Season



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, HL7 Messaging Portal.

Additional Influenza Data Sources:

Centers for Disease Control and Prevention: National Influenza Surveillance (FluView):
http://www.cdc.gov/flu/weekly/fluactivitysurv.htm

The National Respiratory and Enteric Virus Surveillance System (NREVSS):
https://www.cdc.gov/surveillance/nrevss/

World Health Organization: International Influenza Surveillance:
http://www.who.int/influenza/surveillance_monitoring/en/

Missouri Weekly Influenza Surveillance Report
2017-2018 Influenza Season[1]

Week 20: May 13 – 19, 2018

All data are preliminary and may change as more reports are received.

Summary:

- The estimated influenza activity in Missouri is Sporadic[2].

- During Week 20, a total of 34 laboratory-positive[3] influenza cases (16 influenza A and 18 influenza B) were reported. A season-to-date total of 133,957 laboratory-positive influenza cases (85,379 influenza A, 46,677 influenza B, and 1,901 untyped) have been reported in Missouri as of Week 20. The influenza type for reported season-to-date cases includes 64% influenza A, 35% influenza B, and 1% untyped. Three laboratory-positive cases of influenza B (Yamagata) were reported by the Missouri State Public Health Laboratory (MSPHL) during Week 20.

- Influenza-like illness (ILI) activity was below baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 0.49% (Figure 5) and 0.89% (Figure 7) through ILINet and ESSENCE respectively.[4] The ILI data from a small number of sites located in the Northwest Region of the state is temporarily unavailable in ESSENCE. Therefore, the ILI data for the Northwest Region should be interpreted with caution. The percentage of respiratory specimens testing positive for influenza in Missouri laboratories reporting to the National Respiratory and Enteric Virus Surveillance System (NREVSS) decreased during Week 20 (Figure 6).

- Two hundred and seventy-nine influenza-associated deaths have been reported in Missouri as of Week 20.[5] During Week 19, 47 deaths involving Pneumonia and Influenza (P&I) were reported to the Bureau of Vital Records, resulting in a season-to-date total of 2,081 P&I associated deaths in Missouri.[6]

- Seventy outbreaks of influenza or ILI have been reported and 15 influenza or ILI-associated school closures have been reported in Missouri as of Week 20.

- Influenza activity decreased in the U.S. during Week 19. National influenza surveillance information is prepared by CDC and is included in the weekly FluView report, which is available online at http://www.cdc.gov/flu/weekly/fluactivitysurv.htm.

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[1]The 2017-2018 influenza season begins CDC Week 40 (week ending October 7, 2017) and ends CDC Week 39 (week ending September 29, 2018).

[2]Sporadic is defined as: Small numbers of laboratory-confirmed influenza cases or a single laboratory-confirmed influenza outbreak has been reported, but there is no increase in cases of ILI.

[3]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

[4]Influenza-like illness (ILI) is defined by ILINet as fever (temperature of 100ºF [37.8ºC] or greater) and a cough and/or a sore throat without a known cause other than influenza. ILI is defined by ESSENCE as Emergency Department chief complaints for Influenza or (FeverPlus and (Cough or SoreThroat) and not NonILIFevers).

[5]All influenza-associated deaths became reportable in Missouri in 2016.

[6]The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

Surveillance Data:

Interactive Maps

The jurisdiction-specific influenza data are provided though interactive maps available at http://arcg.is/1SnO4G. *Click on the jurisdiction to view the influenza data specific to that jurisdiction.*

- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, CDC Week 20**
- **Reported Week-specific Rate per 100,000 Population, CDC Week 20**
- **Reported Laboratory-positive Influenza Cases by Influenza Type by Jurisdiction, Season-to-Date**
- **Reported Rate per 100,000 Population, Season-to-Date**

Data Figures

Figure 1. Number of Laboratory-positive† Influenza Cases by Influenza Type, Missouri, CDC Week 20 (May 13 – 19, 2018)*

Influenza Type	Week 18	Week 19	Week 20	2017-2018* Season-to-Date
Influenza A	48	17	16	85,379
Influenza B	54	35	18	46,677
Influenza Unknown Or Untyped	0	0	0	1,901
Total	102	52	34	133,957

†Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 2. Number of Laboratory-positive† Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 20 (May 13 – 19, 2018)*‡

Age Group	Week 20 Cases	Week 20 Rate‡	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate‡
00-04	3	0.80	20,574	5,495.78
05-24	10	0.62	47,289	2,947.25
25-49	8	0.42	26,885	1,405.02
50-64	3	0.24	19,286	1,559.88
65+	10	1.05	19,923	2,086.35
Total	34	0.56	133,957	2,201.91

†Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
*Influenza season begins week ending October 7, 2017 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)
‡Incidence Rate per 100,000 population

Figure 3. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Region, Missouri, CDC Week 20 (May 13 – 19, 2018)[*‡]

Region	Week 20 Cases	Week 20 Rate[‡]	2017-2018* Season-to-Date	2017-2018* Season-to-Date Rate[‡]
Central	5	0.74	18,307	2,704.14
Eastern	12	0.53	41,319	1,823.31
Northwest	12	0.75	38,336	2,399.72
Southeast	4	0.85	14,871	3,152.65
Southwest	1	0.09	21,124	1,971.81
Total	34	0.56	133,957	2,201.91

[†]Laboratory-positive influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.
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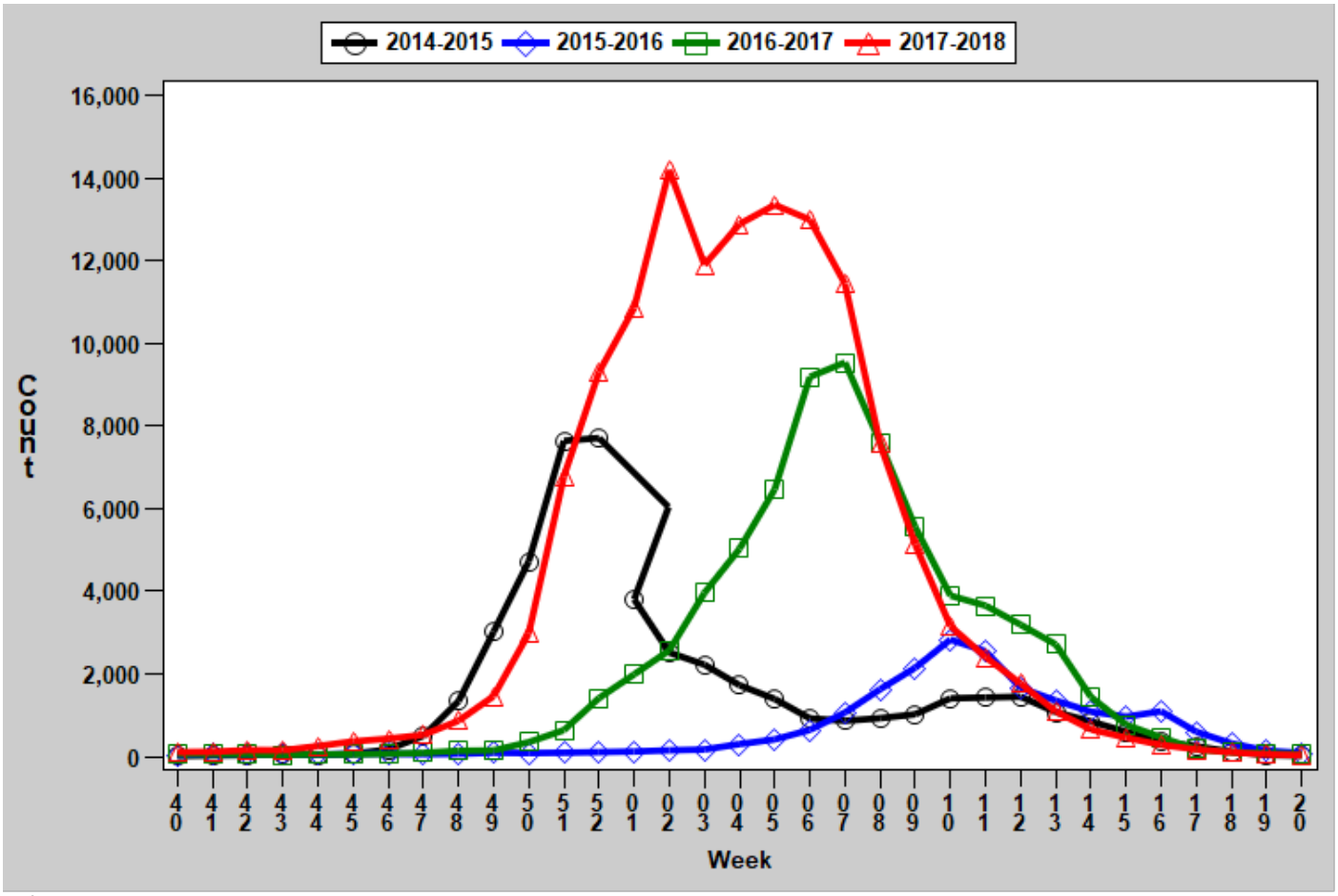
Figure 4. Number of Laboratory-positive[†] Influenza Cases by CDC Week, Missouri, 2014-2018[*]



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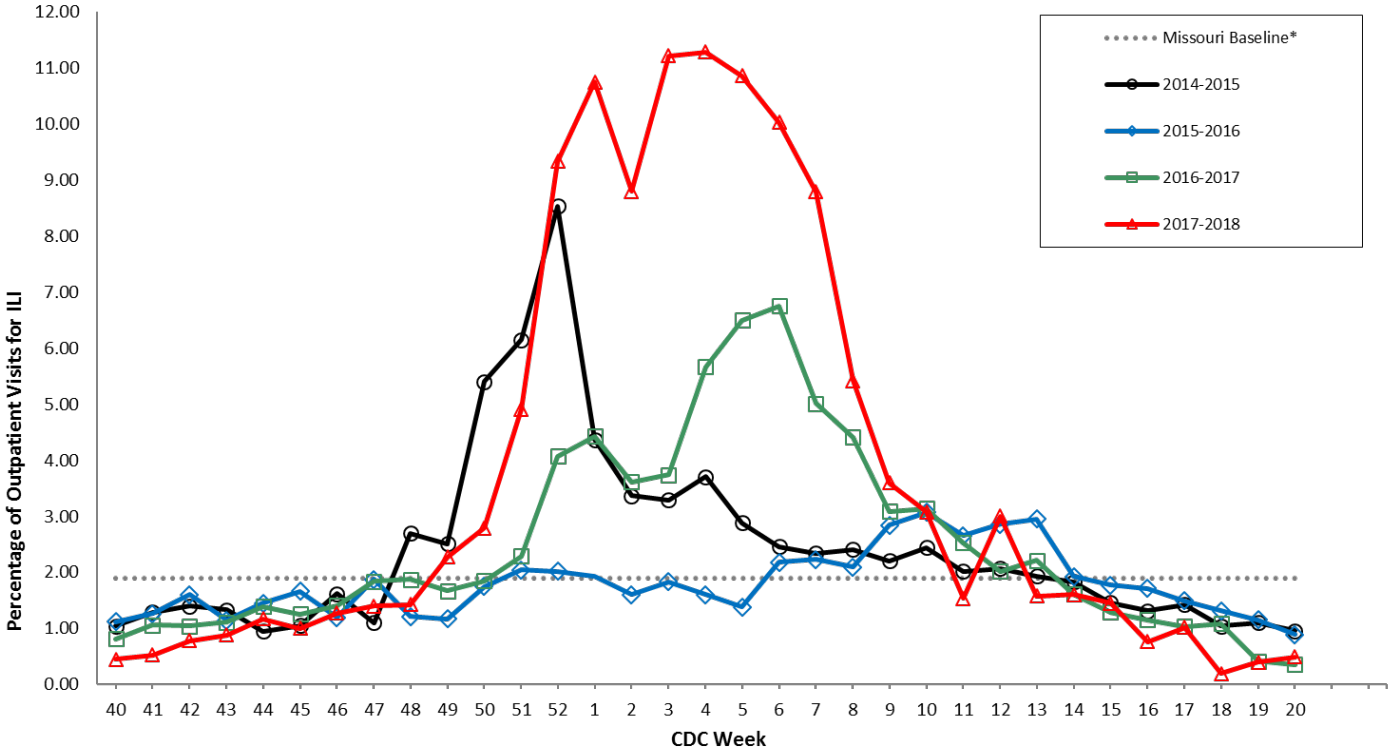
[*]2017-2018 season-to-date through the week ending May 19, 2018 (Week 20). The 2014-2015 season had 53 weeks rather than the usual 52. Week 53, 2014-2015 flu season has 3,082 reported confirmed cases. Data Source: Missouri Health Information Surveillance System (WebSurv).

Figure 5. Percentage of Outpatient Visits for Influenza-like Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2014-2018*†



*The ILINet Region 7 (MO, IA, KS, NE) baseline is the mean percentage of patient visits for ILI during non-influenza weeks for the previous three seasons, plus two standard deviations. A non-influenza week is defined as periods of two or more consecutive weeks in which each week accounted for less than 2% of the season's total number of specimens that tested positive for influenza.
Data Source: U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Centers for Disease Control and Prevention (CDC).

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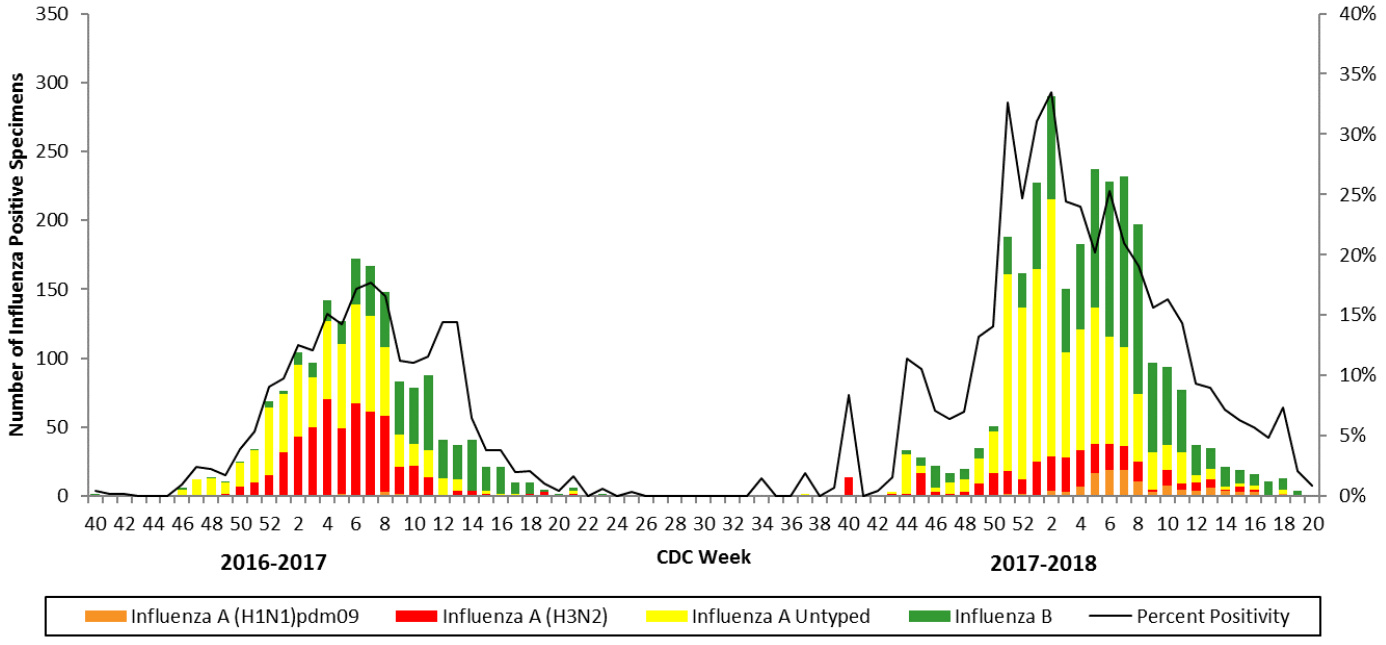

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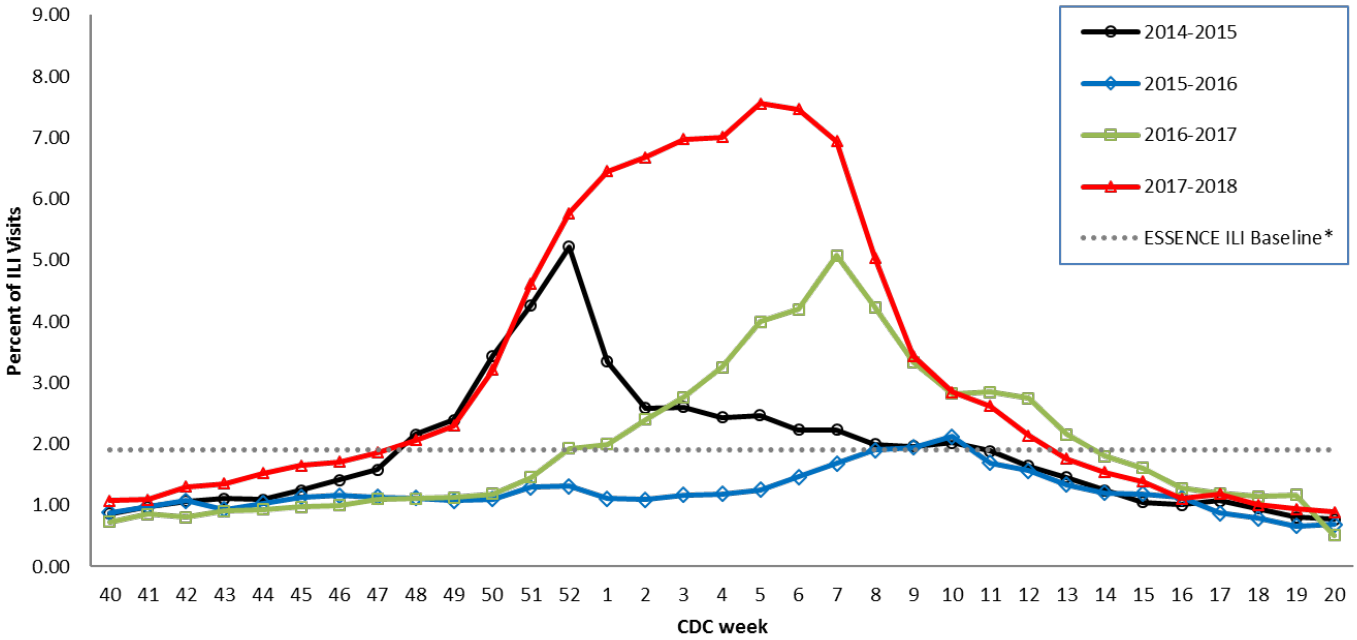

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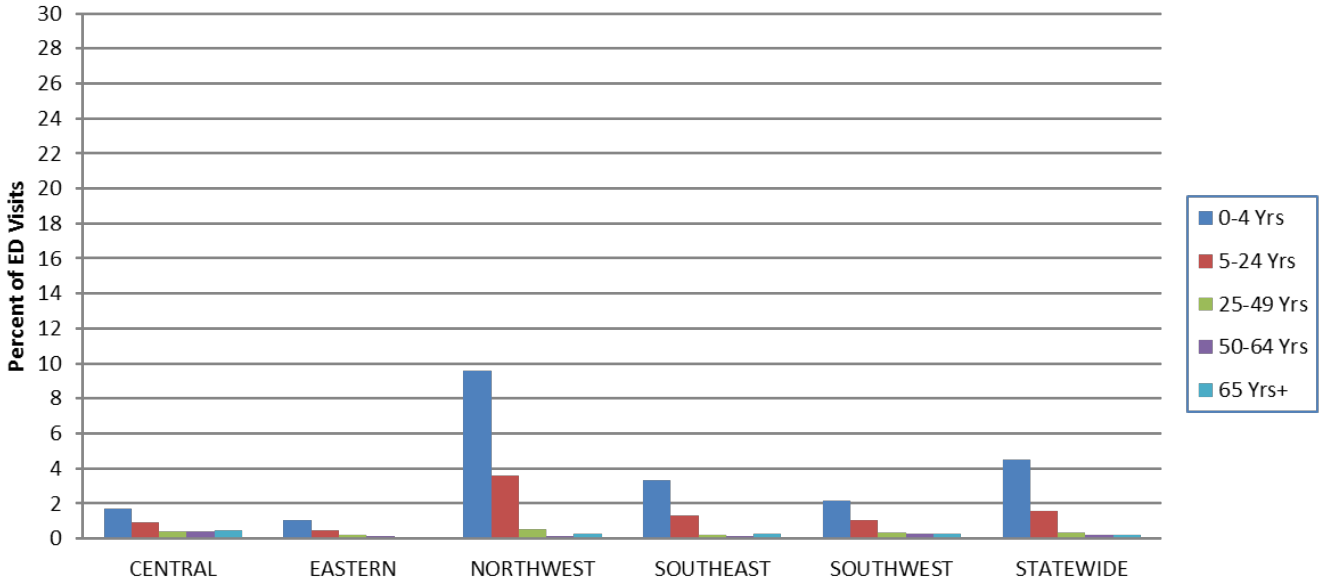

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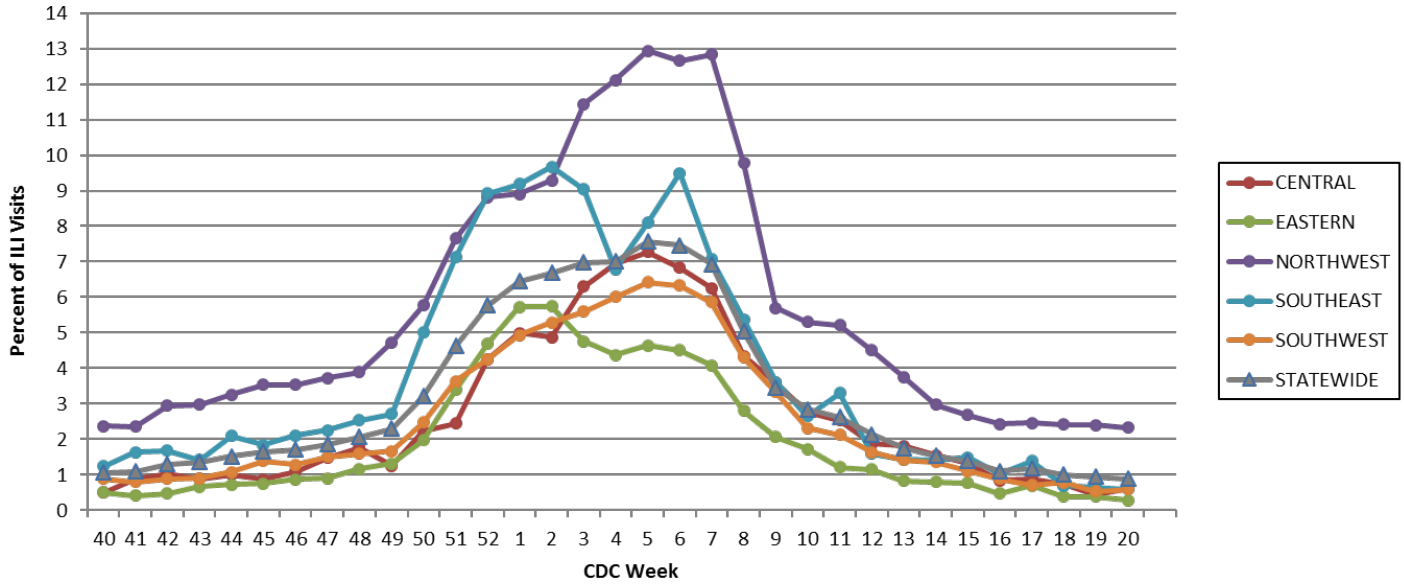

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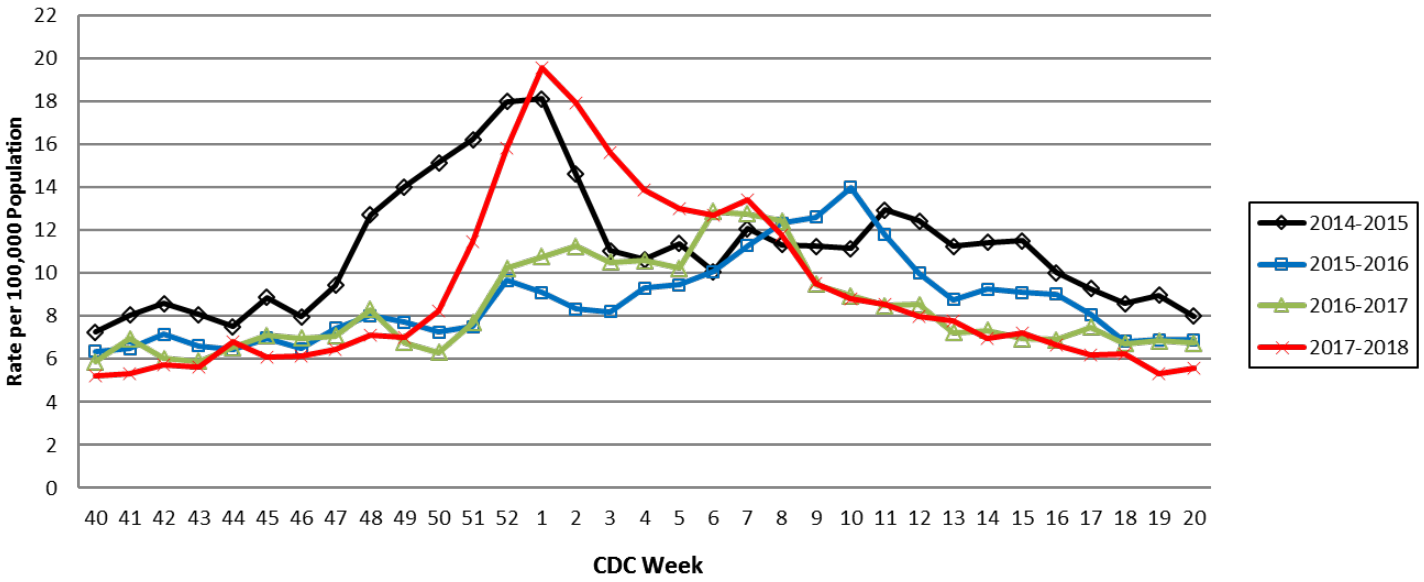

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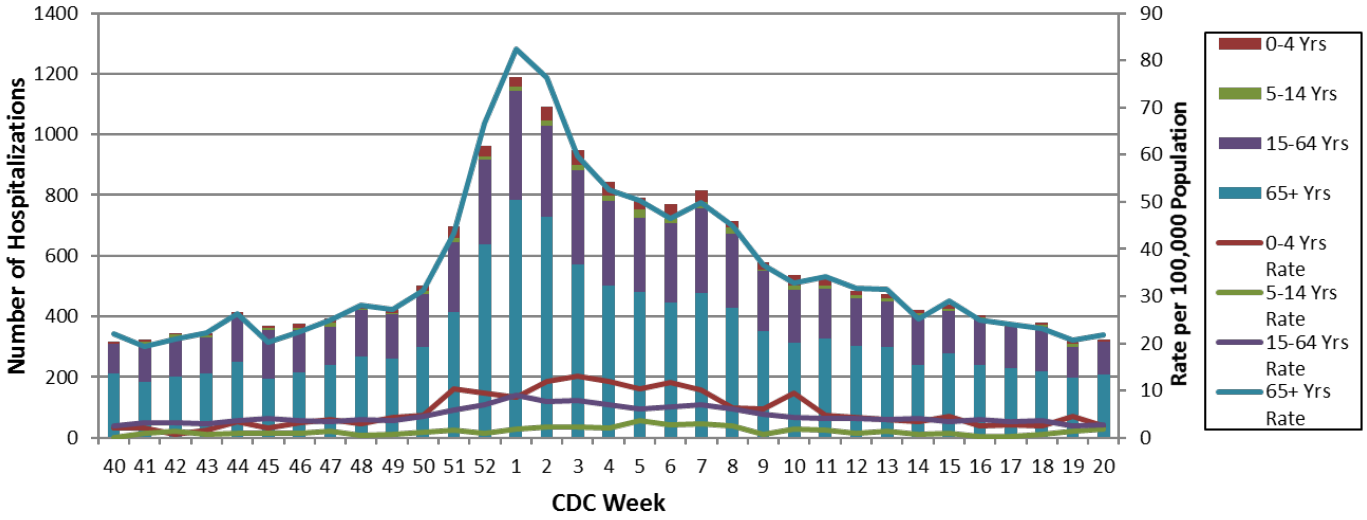

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